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**UNITED STATES  
DEPARTMENT OF AGRICULTURE**

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**HYMENOPTERA OF  
AMERICA NORTH OF MEXICO  
SYNOPTIC CATALOG  
(Agriculture Monograph No. 2)**

**SECOND SUPPLEMENT**

**Prepared by the staff and collaborators of the Hymenoptera Unit,  
Insect Identification and Parasite Introduction Research Branch,  
Entomology Research Division, Agricultural Research Service,  
under the direction of**

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# Hymenoptera of America North of Mexico—Synoptic Catalog

(Agriculture Monograph No. 2)

## SECOND SUPPLEMENT

### INTRODUCTION

The "Hymenoptera of America North of Mexico—Synoptic Catalog" was published on July 11, 1951. It contained references to the literature published through 1949, and to a few papers that appeared during 1950. The First Supplement to this catalog was published on October 8, 1958. It covered the literature that appeared from 1950-1951 through 1956. The Second Supplement, which is presented herewith, includes the literature published from 1957 through 1963, and in some sections, most of the papers that appeared during 1964.

In general, this Second Supplement to the "Hymenoptera of America North of Mexico—Synoptic Catalog" preserves the form of the First Supplement. New supergeneric, generic, subgeneric, and trivial names are starred. Abbreviations and symbols agree with those used in the Catalog and First Supplement.

Additions to distribution, hosts, or prey, or corrections to entries in the Catalog or First Supplement are made following the citation to the generic, subgeneric, or trivial name as it appears in the Catalog or First Supplement. Additional references to papers on biology, distribution, or taxonomy are made in the same way. In the center headings the first page reference is to the Catalog, followed by a reference to the First Supplement, if the latter is necessary.

Generic transfers are shown as follows:

Genus **CEPHALCIA** Panzer, pp. 9–10, Sup. 1, p. 8

**apicalis** (Westwood). Transf. to **Acantholyda** subg. **Acantholyda** A. Costa.

**ACANTHOLYDA** subgenus **ACANTHOLYDA** A. Costa  
(= **Acantholyda** A. Costa of Catalog, in part, pp. 7–9)

**apicalis** (Westwood). Transf. from **Cephalcia** Panzer, p. 9 (*teste* Middlekauff, 1958, *loc. cit. supra*, p. 77).

When a species is transferred to a genus or subgenus different from the one in which it appears in the Catalog or First Supplement, all synonyms and other information under it are also transferred, unless indicated otherwise.

New synonymy is shown:

**modesta** MacGillivray. Syn. of **pini** Rohwer.

**pini** Rohwer.

*Acantholyda modesta* MacGillivray, 1923 (syn. by Middlekauff, 1958, *loc. cit. supra*, p. 85).

New status is shown as:

**johnsoni johnsoni** Viereck, changed status. Reduced to subsp. rank (*teste* Schuster, 1958, *loc. cit. supra*, p. 46).

Generic or subgeneric transfer and a change in status may be combined:

**SPHAEROPHTHALMA** subgenus **PHOTOPSIS** Blake

(= *Photopsis* Blake of Catalog, in part, pp. 753-756)

**amphion** (Fox). Transf. to **Sphaerophthalma** subg. **Photopsioides** Schuster.

\***SPHAEROPHTHALMA** subgenus **PHOTOPSIOIDES** Schuster

**amphion amphion** (Fox), changed status. Transf. from **Photopsis** Blake, p. 753 and reduced to subsp. rank (*teste* Schuster, 1958, *loc. cit. supra*, p. 38).

In the Aculeata, subgeneric assignment may be indicated by a citation to the subgeneric name in parentheses following the species entry:

**robustior** Cockerell . . . . . (*Eumelissodes*)

In many entries here, the compiler of a particular section has not agreed with the taxonomic placement or nomenclature used in a publication by some other worker. This divergence of opinion is expressed by citing the publication under the placement or usage here considered to be preferable, followed by an indication of the different placement or nomenclature in parentheses. For example:

**Genus EUPELMELLA** Masi, p. 512

Nomenclature: Peck, 1963, *loc. cit. supra*, p. 492 (*Macroneura*).

In this Second Supplement the citations to the authorities for some changes, additions, or deletions have been shortened in order to save space. The references for new genera, subgenera, species, subspecies, and varieties are cited in full throughout, but frequently cited works may be referred to only by author, year, and page following the first reference. For instance, in the Ichneumonidae, Townes and Townes, 1960. U. S. Natl. Mus. Bul. 216 (Pt. 2): i-iv + 1-676 is, after its first citation, referred to as Townes and Townes, 1960, followed by particular page references. This has been done when this work is the authority for generic transfers, deletions, changes in status, or synonymy. References to discussions of biology, distribution, or taxonomy from this work are cited in the same way.

Elsewhere in this supplement frequently cited works may be cited as *loc. cit. supra*, where such usage will save space without producing ambiguity of reference. For instance, in the Symphyta, Middlekauff, 1958. Calif. Univ. Pubs., Ent. 14: 51-174 is cited completely under the **Family PAMPILIIDAE**. Subsequently it is referred to as Middlekauff, 1958, *loc. cit. supra*, with the page reference, where it is the source for generic transfers, changes in status, deletions, synonymy, or discussions of biology, distribu-

tion, or taxonomy.

In this supplement, some changes, deletions, or additions are made on the authority of the individual who prepared a particular section. These entries include no citation to the literature or to personal communications from some other worker. For instance, in the Symphyta, **Genus SIREX Linnaeus, p. 83** of the catalog, the information that *areolatus* (Cresson) is "Adventive in Eastern States, emerging from lumber" is *teste* B. D. Burks, although this last phrase does not appear in the text.

## Order HYMENOPTERA

**Taxonomy:** Richards, 1956. Hymenoptera, Introduction and Keys to Families. Handbooks Ident. Brit. Ins., Roy. Ent. Soc., London 6, pt. 1, 94 pp., 197 text figs., 11 pls.—Berland, 1958. Atlas des Hyménoptères de France. I, Tenthredines, Parasites, Porte-aiguillon (Bethyloides, pars), 155 pp., 14 pls. II, Porte-aiguillon (Bethyloides (fin), Scolioïdes, Formicoïdes, Pompiloïdes, Vespoides, Sphecoïdes, Apoïdes), 184 pp., 14 pls. Editions N. Boubée & Cie.—Kerrich, 1960. Soc. Brit. Ent. Trans. 14: 1-18 (review systematics of Parasitica).

**Biology:** Fulmek, 1957. Naturhist. Mus. Wien Ann. 61: 110-227 (aphid parasites and predators).—Michener, 1961. Roy. Ent. Soc., London Symp. 1: 43-56 (aspects of social polymorphism).—Krombein, 1962. Ent. Soc. Wash. Proc. 64: 11-19 (parasitism of several wasps and bees by acarid mites).—Flanders, 1962. Canad. Ent. 94: 1133-1147 (host-parasite interactions).—Evans, 1963. Wasp Farm, 178 pp., 25 figs. (popular account of the biology of some wasps).

**Morphology:** Short, 1959. Roy. Ent. Soc., London Trans. 111: 175-203, 11 figs. (abdominal musculature).—Daly, 1963. Ent. Soc. Amer. Ann. 56: 295-306 (thoracic musculature).

**Evolution:** Lanham, 1951. Ent. Soc. Amer. Ann. (wing venation of Clistogastra).—Brandley, 1958 (1956). Tenth Internatl. Congr. Ent. Proc. 1: 265-269.—Evans, 1958 (1956). Tenth Internatl. Congr. Ent. Proc. 2: 449-457 (social life in wasps).—Evans, 1962. Evolution 16: 468-483 (prey-carrying in wasps).

## Suborder SYMPHYTA

### Superfamily MEGALODONTOIDEA

#### Family XYELIDAE

**Genus XYELA** Dalman, pp. 5-6

\**Xyelatana* Benson, 1938. Roy. Ent. Soc., London, Proc., Ser. B, 7: 35. (Syn. by Burdick, 1961, *loc. cit. infra*, p. 322.)

Type: *Xyela longula* Dalman. Orig. desig.

Revision: Burdick, 1961. Calif. Univ. Pubs., Ent. 17: 285-353.

*alberta* (Curran). Mont., Wyo. Host: *Pinus contorta*.

*alni* Rohwer. Syn. of *minor* Norton.

\**alpigena* (Strobl). Que., Ont., N. Y., Md., Ill., Colo.; Europe. Host: *Pinus strobus*.

*Pinicola alpigena* Strobl, 1895. Wien. Ent. Zeit. 14: 277. ♀, ♂.

*Xyela brunneiceps* Rohwer, 1913 (syn. by Benson, 1962. Brit. Mus. (Nat. Hist.) Bul. Ent. 12: 385).



- \**Xyela middlekauffi* Burdick, 1961. Calif. Univ. Pubs., Ent. 17: 343. ♀.  
(Syn. by Benson, 1962, *loc. cit. supra*, p. 385.)
- bakeri* Konow. Eastern, Que. south to Fla. and E. Tex.; Ont., Mich.; Western, Alta, south to N. Mex., B. C. south to Calif. Hosts: *Pinus palustris*, *P. ponderosa*, *P. sabiniana*, *P. virginiana*.
- Xyela salicis* Rohwer, 1913 (syn. by Burdick, 1961, *loc. cit. supra*, p. 325).
- Xyela intrabilis* MacGillivray, 1923 (syn. by Burdick, 1961, *loc. cit. supra*, p. 325).
- brunneiceps* Rohwer. Syn. of *alpigena* (Strobl).
- californica* Rohwer.  
Taxonomy: Burdick 1961, *loc. cit. supra*, p. 340.
- \**cheloma* Burdick. Idaho, Nev., B. C., Wash., Oreg., Calif. Host: Prob. *Pinus ponderosa*.
- Xyela cheloma* Burdick, 1961. Calif. Univ. Pubs., Ent. 17: 336. ♀, ♂.
- \**concava* Burdick. Nev., Calif. Host: *Pinus monophylla*.
- Xyela concava* Burdick, 1961. Calif. Univ. Pubs., Ent. 17: 342. ♀, ♂.
- \**deserti* Burdick. Calif. Host: *Pinus monophylla*.
- Xyela deserti* Burdick, 1961. Calif. Univ. Pubs., Ent. 17: 347. ♀, ♂.
- dissimilis* Rohwer. Syn. of *minor* Norton.
- errans* Rohwer. Syn. of *minor* Norton.
- intrabilis* MacGillivray. Syn. of *bakeri* Konow.
- \**linsleyi* Burdick. Idaho, Wash., Calif. Host: ? *Pinus ponderosa*.
- Xyela linsleyi* Burdick, 1961. Calif. Univ. Pubs., Ent. 17: 344. ♀, ♂.
- \**lunata* Burdick. Calif. Hosts: *Pinus sabiniana*, prob. *P. coulteri*.
- Xyela lunata* Burdick, 1961. Calif. Univ. Pubs., Ent. 17: 334. ♀, ♂.
- luteopicta* Cockerell. Syn. of *minor* Norton.
- \**middlekauffi* Burdick. Syn. of *alpigena* (Strobl).
- minor* Norton. Eastern, Que. and Ont. south to E. Tex., Western, Alta. south to N. Mex., B. C. south to Calif. Hosts: *Pinus coulteri*, *P. muricata*, *P. ponderosa*, *P. sabiniana*, *P. virginiana*.
- Xyela luteopicta* Cockerell, 1902 (syn. by Burdick, 1961, *loc. cit. supra*, p. 330).
- Xyela alni* Rohwer, 1913 (syn. by Burdick, 1961, *loc. cit. supra*, p. 330).
- Xyela dissimilis* Rohwer, 1913 (syn. by Burdick, 1961, *loc. cit. supra*, p. 330).
- Xyela errans* Rohwer, 1913 (syn. by Burdick, 1961, *loc. cit. supra*, p. 330).
- Xyela nevadensis* Rohwer, 1913 (syn. by Burdick, 1961, *loc. cit. supra*, p. 330).
- Xyela winnemananae* Rohwer, 1913 (syn. by Burdick, 1961, *loc. cit. supra*, p. 330).
- Morphology: Daly, 1963. Ent. Soc. Amer. Ann. 56: 299.
- nevadensis* Rohwer. Syn. of *minor* Norton.
- \**obscura* (Strobl). Newfoundland and Ont. south to Fla. and E. Tex.; N.W.T. south to Alta., and Mont.; B. C. south to Calif.; Holarctic. Hosts: *Pinus palustris*, *P. banksiana*, *P. ponderosa*, *P. virginiana*.
- Pinicola julii* var. *obscura* Strobl, 1895. Wien. Ent. Zeit. 14: 277. ♀.
- Xyela pini* Rohwer, 1913 (syn. by Benson, 1962, *loc. cit. supra*, p. 385).
- pini* Rohwer. Syn. of *obscura* (Strobl).
- Xyela slossonae* Rohwer, 1913 (syn. by Burdick, 1961, *loc. cit. supra*, p. 327).
- Xyela similis* Rohwer, 1913 (syn. by Burdick, 1961, *loc. cit. supra*, p. 327).
- \**priceae* Burdick. Calif. Host: *Pinus coulteri*.
- Xyela priceae* Burdick, 1961. Calif. Univ. Pubs., Ent. 17: 339. ♀, ♂.
- \**radiatae* Burdick. Calif. Host: Prob. *Pinus radiata*.
- Xyela radiatae* Burdick, 1961. Calif. Univ. Pubs., Ent. 17: 337. ♀, ♂.

*salicis* Rohwer. Syn. of *bakeri* Konow.

\**serrata* Burdick. Calif. Host: *Pinus muricata*.

*Xyela serrata* Burdick, 1961. Calif. Univ. Pubs. Ent. 17: 341. ♀.

*similis* Rohwer. Syn. of *obscura* (Strobl).

*slossonae* Rohwer. Syn. of *obscura* (Strobl).

\**styrax* Burdick. Md., Va., Ga. Host: *Pinus virginiana*.

*Xyela styrax* Burdick, 1961. Calif. Univ. Pubs., Ent. 17: 345. ♀, ♂.

*winnemanae* Rohwer. Syn. of *minor* Norton.

#### Genus *PLERONEURA* Konow, p. 6

Taxonomy: Burdick, 1959. Kansas Ent. Soc. Jour. 32: 121 (*Pleuro-neura* (1)).

#### Genus *XYLECIA* Ross, p. 7

*nearctica* Ross. Wash.

Taxonomy: Smith, 1964. Pan-Pacific Ent. 40: 54-56. ♂.

#### Genus *MEGAXYELA* Ashmead, p. 7

*langstoni* Ross. S. C., Ga., Fla.

## Family PAMPHILIIDAE

Taxonomy, Morphology, Phylogeny: Middlekauff, 1958. Calif. Univ. Pubs., Ent. 14: 51-73.

#### Genus *ACANTHOLYDA* A. Costa, pp. 7-9, Sup. 1, p. 8

Delete *Itycorsia* Konow from syn.

Revision: Middlekauff, 1958, *loc. cit. supra*, pp. 73-132.

#### *ACANTHOLYDA* subgenus *ACANTHOLYDA* A. Costa

(= *Acantholyda* A. Costa of Catalog, in part, pp. 7-9)

*abdominalis* Norton. Syn. of *tesselata* (Klug). Transf. *montivaga* Cresson to syn. of *verticalis* (Cresson).

*apicalis* (Westwood). N. C., Fla., Miss. Host: *Pinus taeda*. Transf. from *Cephalaria* Panzer, p. 9 (*teste* Middlekauff, 1958, *loc. cit. supra*, p. 77).

*atripes* (Cresson). N. J., Pa., Ga.

*erythrocephala* (Linnaeus). Ont. Hosts: *Pinus* spp.

*marginiventris* (Cresson). Mass., N. J., Va., N. C.

*modesta* MacGillivray. Syn. of *pini* Rohwer.

*pini* Rohwer. Que., Ont., N. Y., Pa., Md., Va., N. C., Ga., Mich. Host: *Pinus resinosa*.

*Acantholyda modesta* MacGillivray, 1923 (syn. by Middlekauff, 1958, *loc. cit. supra*, p. 85).

*poepppigii* (Brischke and Zaddach). Pa.

\**runcinata* Middlekauff. Tex., Colo., N. M., Ariz.

*Acantholyda (Acantholyda) runcinata* Middlekauff, 1958. Calif. Univ. Pubs., Ent. 14: 89. ♀, ♂.

*tesselata* (Klug). Que., Conn., Ont., N. Y., N. J., Md., Va., N. C., Mich., Wis., Minn. Hosts: *Pinus banksiana*, *P. resinosa*. Transf. *rufiventris* Cresson to syn. of *verticalis* (Cresson).

*Lyda abdominalis* Norton 1862 (syn. by Cresson, 1880. Amer. Ent. Soc. Trans. 8: 64).

ACANTHOLYDA subgenus *ITYCORSIA* Konow(=*Acantholyda* A. Costa of Catalog, in part, pp. 7-9)*\*aequorea* Middlekauff. Calif.*Acantholyda (Itycorsia) aequorea* Middlekauff, 1958. Calif. Univ. Pubs., Ent. 14: 93. ♀, ♂.*albomarginata* (Cresson). Mich., Mont., Alaska, B. C., Wash., Oreg., Calif. Hosts: Prob. *Pinus muricata*, *P. ponderosa*.*Itycorsia marginiventris* Kincaid, 1900 (not Cresson). Misident.*Itycorsia kincaidi* Rohwer, 1910 (syn. by Middlekauff, 1958, *loc. cit. supra*, p. 95).*angulata* (MacGillivray). N. B., Que., Maine, Mass., Ont., Pa., Mich., Minn. Hosts: *Pinus austriaca*, *P. rigida*, *P. densiflora*, *P. banksiana*, *P. strobus*.*atrata* (Cresson). Idaho, B. C., Wash., Oreg., Calif. Hosts: *Tsuga heterophylla*, *Abies concolor*.*Itycorsia balata* MacGillivray, 1923 (syn. by Middlekauff, 1958, *loc. cit. supra*, p. 98).*\*aurigera* Middlekauff. Calif.*Acantholyda (Itycorsia) aurigera* Middlekauff, 1958. Calif. Univ. Pubs., Ent. 14: 100. ♀.*balanata* MacGillivray. Alaska, B. C., Calif. Hosts: *Pseudotsuga menziesii*, *Picea sitchensis*, *Picea* sp., *Abies* sp., *Tsuga* sp.*balata* MacGillivray. Syn. of *atrata* (Cresson).*ballista* MacGillivray. Syn. of *terminalis* (Cresson).*bicolorata* (Norton). Maine. Delete *nigripes* Cresson from syn.*brunnicans* (Norton). Mont., Wyo., Nev., B. C., Oreg., Calif. Hosts: Prob. *Pinus contorta*, *P. sabiniana*, *P. ponderosa*, *P. radiata*. Delete *olympia* MacGillivray from syn.*Lyda discolor* Cresson, 1880 (syn. by Middlekauff, 1958, *loc. cit. supra*, p. 103).*Lyda morrisoni* Cresson, 1880 (syn. by Middlekauff, 1958, *loc. cit. supra*, p. 103).*Lyda nevadensis* Cresson, 1880 (syn. by Middlekauff, 1958, *loc. cit. supra*, p. 103).*brunniceps* (Cresson). N. B., Que., Mass., Ont., Minn.*bucephala* (Cresson). Mont., B. C., Wash., Oreg., Calif. Hosts: *Pseudotsuga menziesii*, prob. *Abies concolor*.*Lyda olympia* MacGillivray, 1893 (syn. by Middlekauff, 1958, *loc. cit. supra*, p. 107).*\*burkei* Middlekauff. Calif. Host: *Pinus radiata*.*Acantholyda (Itycorsia) burkei* Middlekauff, 1958. Calif. Univ. Pubs., Ent. 14: 108. ♀, ♂.*chicoutimiensis* (Huard). Que., Ont. Hosts: *Picea mariana*, ? *Pinus banksiana*.

Nomenclature: Comeau, 1957. Nat. Canad. 84: 29.

*circumcincta* (Klug). N. B., Que., Pa. Hosts: *Pinus banksiana*, prob. other sp. of *Pinus*.*\*crocina* Middlekauff. Idaho, Calif. Hosts: Possibly *Pinus muricata*, *P. sabiniana*.*Acantholyda (Itycorsia) crocina* Middlekauff, 1958. Calif. Univ. Pubs., Ent. 14: 113. ♀, ♂.*\*depressa* Middlekauff. Ariz.*Acantholyda (Itycorsia) depressa* Middlekauff, 1958. Calif. Univ. Pubs., Ent. 14: 115. ♂.*discolor* Cresson. Syn. of *brunnicans* (Norton).

- kincaidi** Rohwer. Syn. of **albomarginata** (Cresson).
- luteomaculata** (Cresson). N. B., Que., Maine, Vt., Mass., Ont., Pa., Ohio, Mich., Wis., Minn. Hosts: *Pinus strobus*, prob. *P. sylvestris*, *P. banksiana*.
- luteopicta** Rohwer. Syn. of **verticalis** (Cresson).
- maculiventris** (Norton). Labrador, Que. and Maine south to N. C., west to B. C. and Calif. Hosts: *Abies balsamea*, *Picea glauca*, possibly *Picea mariana*, *Pinus strobus*. Delete **chicoutimiensis** (Huard) from syn.
- montivaga** Cresson. Syn. of **verticalis** (Cresson).
- morrisoni** Cresson. Syn. of **brunnicans** (Norton). Delete **nevadensis** Cresson from syn.
- nevadensis** Cresson. Syn. of **brunnicans** (Norton).
- nigripes** (Cresson). Nev., Oreg., Calif.
- nigrita** (Cresson). Calif.
- ochrocera** (Norton). Que., Ont., Mich., Wis.
- olympia** MacGillivray. Syn. of **bucephala** (Cresson).
- ruficeps** (Harrington). Que., Mass., Ont., N. Y., Mich., Minn., B. C. Hosts: Prob. *Pinus resinosa*, *P. contorta*, *P. banksiana*.
- rufiventris** Cresson. Syn. of **verticalis** (Cresson).
- terminalis** (Cresson). Colo., Wash., Oreg., Calif.  
*Itycorsia ballista* MacGillivray, 1923 (syn. by Middlekauff, 1958, *loc. cit. supra*, p. 125).
- \***thalictra** Middlekauff. Tex., N. Mex. Host: ? *Pinus edulis*.  
*Acantholyda (Itycorsia) thalictra* Middlekauff, 1958. Calif. Univ. Pubs., Ent. 14: 126. ♀.
- verticalis** (Cresson). Minn., Nebr., Mont., Wyo., Colo., Alta., Nev., B. C., Wash., Oreg., Calif. Hosts: *Pinus radiata*, prob. *P. contorta*, *P. ponderosa*, *P. monticola*.  
*Lyda similis* Cresson, 1880 (questionably syn. in Catalog, p. 9).  
*Lyda montivaga* Cresson, 1880 (syn. by Middlekauff, 1958, *loc. cit. supra*, p. 127).  
*Lyda rufiventris* Cresson, 1880 (syn. by Middlekauff, 1958, *loc. cit. supra*, p. 127).  
*Itycorsia luteopicta* Rohwer, 1910 (syn. by Middlekauff, 1958, *loc. cit. supra*, p. 127).
- zappei** (Rohwer). Que., N. H., Mass., Ont., N. J., Md., Mich. Hosts: *Pinus austriaca*, *P. strobus*, *P. rigida*.

#### Unplaced Species of Acantholyda

- variegata** Norton. Delete **bucephala** Cresson from syn.

#### Genus CEPHALCIA Panzer, pp. 9–10, Sup. 1, p. 8

Revision: Middlekauff, 1958, *loc. cit. supra*, pp. 132–149.

- apicalis** (Westwood). Transf. to Acantholyda subg. Acantholyda A. Costa.
- \***californica** Middlekauff. Mont., ? Wyo., Calif. Hosts: prob. *Pinus murrayana*, *P. ponderosa*.  
*Cephalcia californica* Middlekauff, 1958. Calif. Univ. Pubs., Ent. 14: 135. ♀.
- canadensis** (Norton). Transf. to Unplaced species of Pamphiliidae.
- criddlei** (MacGillivray). Syn. of **fascipennis** (Cresson).
- dissipator** (MacGillivray). Syn. of **fascipennis** (Cresson).
- distincta** MacGillivray. Syn. of **provancheri** (Huard).

- fascipennis** (Cresson). N. B., N. S., Que., Maine, Ont., Man. Hosts: *Picea pungens*, ? *P. glauca*, *Pinus rigida*.  
***Cephaleia criddlei*** MacGillivray, 1912 (syn. by Middlekauff, 1958, *loc. cit. supra*, p. 137).  
***Cephaleia dissipator*** MacGillivray, 1923 (syn. by Middlekauff, 1958, *loc. cit. supra*, p. 137).  
**frontalis** (Westwood). Ont., N. Y., N. J., Pa., N. C., Ga., Mich.  
***Caenolyda onekama*** MacGillivray, 1923 (syn. by Middlekauff, 1958, *loc. cit. supra*, p. 137).  
**fulviceps** (Rohwer). Que., N. H., Conn., Ont., Ark. Hosts: *Pinus banksiana*, *P. resinosa*.  
**hopkinsi** (Rohwer). Host: Prob. *Pinus ponderosa*.  
**jenseni** MacGillivray. Syn. of **semidea** (Cresson).  
**marginata** Middlekauff. Conn., W. Va. Hosts: *Pinus resinosa*, *Picea* sp.  
**mathematica** (Kirby). Syn. of **nigropectus** (Cresson).  
**\*nigra** Middlekauff. N. B., N. S., Maine, Mich.  
***Cephalcia nigra*** Middlekauff, 1958. Calif. Univ. Pubs., Ent. 14: 143. ♀.  
**nigropectus** (Cresson). Newfoundland south to N. C., west to Alaska and Calif. Hosts: *Picea glauca*, prob. other spruces.  
***Pamphilius mathematicus*** Kirby, 1882 (syn. by Middlekauff, 1958, *loc. cit. supra*, p. 144).  
***Caphaleia punctata*** Rohwer, 1908 (syn. by Middlekauff, 1958, *loc. cit. supra*, p. 144).  
**nortoni** Rohwer. Syn. of **semidea** (Cresson).  
**onekama** (MacGillivray). Syn. of **frontalis** (Westwood).  
**ochreipes** (Cresson). Transf. to **Pamphilius** Latreille.  
**provancheri** (Huard). N. H., N. Y., Ont. Trans. from **Pamphilius**, p. 11 (*teste* Middlekauff, 1958, *loc. cit. supra*, p. 146).  
***Cephaleia distincta*** MacGillivray, 1912 (syn. by Middlekauff, 1958, *loc. cit. supra*, p. 146).  
**punctata** (Rohwer). Syn. of **nigropectus** (Cresson).  
**\*rossi** Middlekauff. Newfoundland, N. B., Que., Mass., Ont., Mich. Host: *Abies balsamea*.  
***Cephalcia rossi*** Middlekauff, 1958. Calif. Univ. Pubs., Ent. 14: 147. ♀.  
**semidea** (Cresson). N. B., Que., Conn., Ont., N. Y., Mich. Host: ? *Picea* sp.  
***Caenolyda nortoni*** Rohwer, 1910 (syn. by Middlekauff, 1958, *loc. cit. supra*, p. 148).  
***Cephaleia jenseni*** MacGillivray, 1912 (syn. by Middlekauff, 1958, *loc. cit. supra*, p. 148).

Genus **NEUROTOMA** Konow, p. 10, Sup. 1, p. 8

Revision: Middlekauff, 1958, *loc. cit. supra*, pp. 149-158.

**crataegi** Middlekauff. N. Y., Mich.

**fasciata** (Norton). N. H., south to Fla., west to Mich., Ill., and Mo. Host: *Prunus pennsylvanica*.

**inconspicua** (Norton). Mass., N. Y., and Pa., west to B. C., Mont., Kans., Ark. Hosts: *Prunus* spp.

**\*willi** Middlekauff. Pa.

***Neurotoma willi*** Middlekauff, 1958. Calif. Univ. Pubs., Ent. 14: 158. ♂.

Genus **PAMPHILIUS** Latreille, pp. 10-12

**\*?Pseudocephaleia** Zirngiebl, 1937. Embrik Strand 60. Geburtst. Festschr. (Riga) 3: 339. (Syn. questionably *teste* Benson, 1945. Roy. Ent. Soc., London Proc., ser. B, 14: 31.)

Type: ***Pseudocephaleia brachycerus*** Zirngiebl. Orig. desig.

\**Pamphilius* subg. *Onycholyda* Takeuchi, 1938. *Tenthredo* 2: 218. (Syn. *teste* Benson, 1945, *loc. cit. supra*. p. 31.)

Type: *Pamphilius sulphureipes* Kirby. Orig. desig.

Revision: Middlekauff, 1964. Calif. Univ. Pubs., Ent. 38: 1-80.

*amplectus* (Fabricius). N. J. south to Fla. west to Ill. and Tex.; delete Colo. from dist. Host: *Rubus* sp. Delete *cavifrons* Cresson from syn. and transf. to syn. of *multisignatus* (Norton).

*Lyda plagiata* Klug (syn. *teste* Middlekauff, 1964, *loc. cit. supra*, p. 14).

*burquei* (Provancher). Ont., Va.

*cinctus* Harrington. Que., N. Y., Mich., Wis.

*dentatus* MacGillivray. Syn. of *luteicornis* (Norton).

*excavatus* (Norton). Que. south to Va. west to Mich., Minn., Ohio; B. C. Host: *Cornus stolonifera*.

*fletcheri* MacGillivray. Syn. of *luteicornis* (Norton).

*fortuitus* MacGillivray. Syn. of \**sitkensis* (Kincaid).

*fulvifrons* Rohwer. Syn. of \**sitkensis* (Kincaid).

*greenei* Rohwer. Syn. of *ocreatus* (Say).

*harringtonii* (Provancher). Syn. of *luteicornis* (Norton).

\**infuscatus* Middlekauff. Maine, Alta., B. C. Host: *Populus tremuloides*.

*Pamphilius infuscatus* Middlekauff, 1964. Calif. Univ. Pubs., Ent. 38: 24. ♀, ♂.

*luteicornis* (Norton). N. B. and N. S. south to Fla. west to Man. and Ill., Alta. Hosts: *Rubus* spp.

*Lyda harringtonii* Provancher, 1886 (syn. *teste* Middlekauff, 1964, *loc. cit. supra*, p. 25).

*Pamphilius ocellatus* Rohwer, 1910 (syn. *teste* Middlekauff, 1964, *loc. cit. supra*, p. 25).

*Pamphilius rubi* Rohwer, 1910 (syn. *teste* Middlekauff, 1964, *loc. cit. supra*, p. 25).

*Pamphilius dentatus* MacGillivray, 1912 (syn. *teste* Middlekauff, 1964, *loc. cit. supra*, p. 26).

*Pamphilius fletcheri* MacGillivray, 1912 (syn. *teste* Middlekauff, 1964, *loc. cit. supra*, p. 26).

Biology: Fletcher, 1900. Rpt. Ent. Bot. Dom. Expt. Farm Ottawa, Sess. Paper 8 a: 180-181 (*multisignata*).—Walden, 1913. Conn. Agr. Expt. Sta. Ann. Rpt. 36: 236-240 (*dentatus*).

*multisignatus* (Norton). Ont. west to B. C. south to Kans., and N. Mex. Delete *melliventris* Cresson from syn. and transf. to syn. of *pacificus* (Norton).

*Lyda cavifrons* Cresson, 1865 (syn. *teste* Middlekauff, 1964, *loc. cit. supra*, p. 30).

\**Bactroceros pugnax* Rohwer, 1908. N. Y. Ent. Soc. Jour. 16: 103. ♀. Preocc. (Syn. *teste* Middlekauff, 1964, *loc. cit. supra*, p. 30.)

*Anoplolyda saeva* Rohwer, 1910, n. name for *pugnax* Rohwer.

*nigritibialis* Rohwer. Que. south to N. C. west to Alta. and Colo.

*Pamphilius transversus* MacGillivray, 1912 (syn. *teste* Middlekauff, 1964, *loc. cit. supra*, p. 33).

*ocellatus* Rohwer. Syn. of *luteicornis* (Norton).

*ochreipes* (Cresson). Transf. from *Cephalcia* Panzer *teste* Middlekauff, 1964, *loc. cit. supra*, p. 38. Maine and Ont. south to N. C. west to Alaska and B. C. Host: Adults taken on *Cornus* and *Corylus*.

*Lyda perplexa* Cresson, 1880 (syn. *teste* Middlekauff, 1964, *loc. cit. supra*, p. 38).

*ocreatus* (Say). Maine south to N. C. west to Man. and Ill. Host: *Corylus rostrata*.

- Pamphilus greenei* Rohwer, 1913 (syn. *teste* Middlekauff, 1964, *loc. cit. supra*, p. 35).
- pacificus* (Norton). B. C. south to Calif. east to Colo. Host: *Rosa californica*.  
*Lyda melliventris* Cresson, 1880 (syn. *teste* Middlekauff, 1964, *loc. cit. supra*, p. 40).  
 Biology: Middlekauff, 1964, *loc. cit. supra*, pp. 41-42.
- palachei* (Ashmead).  
 Taxonomy: Middlekauff, 1964, *loc. cit. supra*, p. 43.
- pallimaculus* (Norton). Que. and Maine south to Ga. west to B. C. and Colo.  
 Host: Collected on rose.
- persicum* MacGillivray. Que. south to Fla. west to Minn., Nebr., and Tex.  
*Pamphilus unalatus* MacGillivray, 1920 (syn. *teste* Middlekauff, *loc. cit. supra*, p. 46).  
 Biology and Taxonomy: Middlekauff, 1964, *loc. cit. supra*, pp. 47-49.
- \**phyllisae* Middlekauff. Que. south to N. C. west to Mich. and Wis. Host: Collected on *Cornus*.  
*Pamphilus phyllisae* Middlekauff, 1964. Calif. Univ. Pubs., Ent. 38: 46. ♀, ♂.
- plagiatus* (Klug). Syn. of *amplectus* (Fabricius).
- provancheri* (Huard). Transf. to *Cephalcia* Panzer.  
 Nomenclature: Comeau, 1957. Nat. Canad. 84: 29.
- pullatus* (Cresson). Newfoundland south to Va. west to Ill. and Mo. Host: *Viburnum dentatum*.  
 Taxonomy: Middlekauff, 1964, *loc. cit. supra*, p. 52 (♂).
- quebecensis* (Provancher). Que. and Ont. south to N. C. west to Mich.  
 Taxonomy: Middlekauff, 1964, *loc. cit. supra*, pp. 53-54 (♂).
- rileyi* (Cresson). Conn. south to W. Va. west to Mich., Iowa, Mo. Delete Ga. from dist. Host: Ovipositing on *Amelanchier*.  
*Pamphilus subcavifrons* Rohwer, 1910 (syn. *teste* Middlekauff, 1964, *loc. cit. supra*, p. 55).
- rubi* Rohwer. Syn. of *luteicornis* (Norton).
- rufocinctus* (Cresson). Syn. of *rufofasciatus* (Norton).
- rufofasciatus* (Norton). Newfoundland, P. E. I., Que., and Maine south to Ga., west to Alta. and Colo.  
*Lyda rufocincta* Cresson, 1880 (syn. *teste* Middlekauff, 1964, *loc. cit. supra*, p. 56).
- saevus* (Rohwer). N. name for \**pugnax* Rohwer, syn. of *multisignatus* (Norton).
- scriptus* (Say.) Transf. to Unplaced Species of Pamphiliidae.
- semicinctus* (Norton). Que. and Maine south to N. C. west to Ind. and Tenn. Hosts: *Amelanchier canadensis*, *Amelanchier* sp., ? *Pyrus malus*, *Prunus virginiana*.  
 Taxonomy: Middlekauff, 1964, *loc. cit. supra*, p. 59 (♂).
- \**sitkensis* (Kincaid). Alaska south to Calif., Idaho, Nev. Hosts: *Rubus* spp.  
*Bactrocera sitkensis* Kincaid, 1900. Wash. Acad. Sci. Proc. 2: 344. ♀.  
*Pamphilus fulvifrons* Rohwer, 1910 (syn. *teste* Middlekauff, 1964, *loc. cit. supra*, p. 61).  
*Pamphilus fortuitus* MacGillivray, 1923 (syn. *teste* Middlekauff, 1964, *loc. cit. supra*, p. 61).  
 Biology: Middlekauff, 1964, *loc. cit. supra*, pp. 62-64.
- subcavifrons* Rohwer. Syn. of *rileyi* (Cresson).
- transversus* MacGillivray. Syn. of *nigritibialis* Rohwer.
- unalatus* MacGillivray. Syn. of *persicum* MacGillivray.

\***uniunguis** Middlekauff. N. C., Minn., Man.

*Pamphilius uniunguis* Middlekauff, 1964. Calif. Univ. Pubs., Ent. 38: 65. ♀.

\***vernalis** Middlekauff. Nebr., Man.

*Pamphilius vernalis* Middlekauff, 1964. Calif. Univ. Pubs., Ent. 38: 66. ♀.

#### Unplaced Species of Pamphiliidae

Insert at end of **Family Pamphiliidae**, p. 12.

*Lyda canadensis* Norton. Transf. from **Cephalcia** Panzer, p. 9 (*vide* Middlekauff, 1964, *loc. cit. supra*, p. 68).

*Tarpa scripta* Say. Transf. from **Pamphilius** Latreille, p. 12 (*vide* Middlekauff, 1964, *loc. cit. supra*, p. 68).

### Superfamily TENTHREDINOIDEA

#### Family ARGIDAE

Taxonomy: Benson, 1963 (1962). Ann. Mag. Nat. Hist., ser. 13, 5: 633-635.

Genus **ARGE** Schrank, pp. 13-14

**pectoralis** (Leach).

Biology: Schwarz, 1909. Ent. Soc. Wash. Proc. 11: 106-108.

Genus **NEOPTILIA** Ashmead, p. 15

**malvacearum** (Cockerell). Tex., Ariz. Host: *Althaea rosea*.

\* Genus **SCHIZOCERELLA** Forsius

(= *Sofus* Malaise of Catalog, p. 16)

*Schizocerella* Forsius, 1927. Not. Ent. 7: 19.

Type: *Schizocerella axillaris* Forsius, Orig. desig.

Taxonomy: Benson, 1963, *loc. cit. supra*, p. 631.

**pilicornis** (Holmgren). Introd. into Australia from Amer.

\**Schizocerella scapularis* Forsius, 1927. Not. Ent. 7: 19 (syn. by Benson, 1963, *loc. cit. supra*, p. 631).

#### Family CIMBICIDAE

(= *Clavellariidae*), Townes, 1962. U. S. Natl. Mus. Bul. 216, p. 67.

#### Family DIPRIONIDAE

Genus **ZADIPRION** Rohwer, p. 19

**rohweri** (Middleton). Nev.

Genus **NEODIPRION** Rohwer, pp. 19-21, Sup. 1, p. 9

**abbottii** (Leach). Host: *Pinus elliotii* var. *densa*.

**edwardsii** (Norton). Host: *Pinus radiata*.

*Lophyrus edwardsii* Norton, change date to 1869.

**excitans** Rohwer. Southeastern, west to Ill. and Tex.

Biology: Hetrick, 1959. Fla. Ent. 42: 159-162.—Fatzinger, 1964. Jour. Econ. Ent. 57: 412.

**fulviceps** (Cresson).

Morphology: Daly, 1963. Ent. Soc. Amer. Ann. 56: 303.

**hypomelas** (Rohwer). Colo.



**lecontei** (Fitch).

Biology: Benjamin, 1955. U. S. Dept. Agr. Tech. Bul. 1118, 57 pp.

**\*merkei** Ross. Fla. Host: *Pinus elliotti* var. *densa*.

*Neodiprion merkei* Ross, 1961. Ent. Soc. Amer. Ann. 54: 452. ♀, ♂.

**nanulus nanulus** Schedl. Hosts: *Pinus echinata*, *P. rigida*.

Biology: McCormick and Andresen, 1961. Amer. Mus. Novit. 2032, 6 pp.

**nigroscutum** Middleton. Mich.**pratti banksianae** Rohwer.

Biology: Ghent, 1958. Canad. Jour. Zool. 36: 175-183.—Moens and Atwood, 1963. Canad. Ent. 95: 779-782.

**pratti pratti** (Dyar). N. J. south to N. C. west to Ind. and Ky. Hosts: *Pinus echinata*, *P. rigida*, *P. virginiana*.

Biology: Morris, Schroeder, and Bobb, 1963. Pine Sawfly in Va., Va. Div. For., 42 pp.—Bobb, 1963. Jour. Econ. Ent. 56: 618-621.

**sertifer** (Geoffroy).

Biology: Griffiths, 1959. Canad. Ent. 91: 500-511.—Wallace and Sullivan, 1963. Canad. Ent. 95: 1051-1066.

Physiology: Marek, 1963. Českol. Spolec. Zool. Vest. 27: 115-124.

**swainci** Middleton. Mich., Minn.

Biology: Ghent and Wallace, 1958. Forest Sci. 4: 264-272.—Franklin, 1959. Ent. News 70: 62.

**taedae linearis** Ross. La. Host: *Pinus echinata*.

Biology: Coyne, 1959. U. S. Dept. Agr. For. Pest Leaflet 34, 4 pp.

**\*warreni** Ross. Ark. Host: *Pinus echinata*.

*Neodiprion warreni* Ross, 1961. Ent. Soc. Amer. Ann. 54: 451. ♀, ♂.

**DIPRION** subgenus **DIPRION** Schrank, p. 21**similis** (Hartig).

Biology: Casida, Coppel, and Watanabe, 1963. Jour. Econ. Ent. 56: 18-24.

**DIPRION** subgenus **GILPINIA** Benson, p. 21**hercyniae** (Hartig).

Biology: Martineau, 1963. Canad. Ent. 95: 317.

**Family TENTHREDINIDAE****Subfamily SELANDRIINAE**

Taxonomy: Malaise, 1963. Ent. Tidskr. 84: 159-215 (genera of world).

**Genus HEMITAXONUS** Ashmead, p. 22**dubitatus** (Norton).

Biology: Krombein, 1960. Ent. News 71: 30.

**ANEUGMENUS** subgenus **ANEUGMENUS** Hartig, p. 23**\*padi** (Linnaeus). Oreg., widespread in Canada; Europe, Asia Minor, Transcaucasus. Hosts: Ferns.

*Tenthredo padi* Linnaeus, 1761. Fauna Suec., ed. 2, p. 390. [♀.]

*Tenthredo stramineipes* Klug (syn. by Malaise and Benson, 1934, Arkiv för Zool. 26 A(20):6).

*Selandria urbis* Ross (syn. by Benson, 1962. Brit. Mus. (Nat. Hist.) Bul. Ent. 12: 387).

**stramineipes** (Klug). Syn. of **padi** (Linnaeus).**urbis** Ross. Syn. of **padi** (Linnaeus).**\*Tribe HEPTAMELINI**

Place in Selandriinae, after genus *Aneugmenus* Hartig, p. 24.

**\*Genus HEPTAMELUS Haliday**

*Heptamelus* Haliday, 1855. Nat. Hist. Rev. 2 (Proc.): 60.

Type: *Melicerta ochroleuca* Stephens. By monotypy.

\**ochroleucus* (Stephens). B. C.; N. Eurasia. Hosts: Ferns.

*Melicerta ochroleuca* Stephens, 1835. Illust. Brit. Ent. Mand., v. 7, p. 95.

Distribution: Benson, 1962, *loc. cit. supra*, p. 387.

**Genus SELANDRIA Leach, p. 24**

\**flavens* (Klug). Northeast. and Northcent. N. Amer.; Holarctic. Host: *Carex* sp.

*Tenthredo (Allantus) flavens* Klug, 1814. Mag. Ges. Naturf. Fr. Berlin 8: 48. ♀, ♂.

*Selandridea vanduzeei* Rohwer, 1911 (syn. by Benson, 1962, *loc. cit. supra*, p. 387).

*vanduzeei* (Rohwer). Syn. of *flavens* (Klug).

\**wuestneii* Konow. Man.; Europe. Host: *Carex* sp.

*Selandria wüstneii* Konow, 1885. Wein. Ent. Zeit. 4: 122. ♀, ♂

Distribution: Benson, 1962, *loc. cit. supra*, p. 387.

**DOLERUS subgenus DOLERUS Panzer, pp. 24-27**

\**asper* Zaddach. Conn., Mass., Mich., S. Dak.; Europe, Siberia. Hosts: Grasses and sedges.

*Dolerus asper* Zaddach, 1859. Prog. Fried. Coll. Königsb., p. 21. ♂.

*Dolerus tectus* MacGillivray, 1914 (syn. by Benson, 1962, *loc. cit. supra*, p. 389).

*tectus* MacGillivray. Syn. of *asper* Zaddach.

**Genus CALIROA O. Costa, pp. 28-29**

*amygdalina* Rohwer. Md., Va., Tenn., Mo.

*lineata* MacGillivray. Pa., Md., Va., N. C.

**Genus HETERARTHURUS Stephens, pp. 29-30**

*nemoratus* (Fallén).

Taxonomy: Lindquist, 1959. Canad. Ent. 91: 625-627 (larva).

**Genus MESSA Leach, p. 30**

*alaskana* (Kincaid). Syn. of *wuestneii* (Konow).

\**wuestneii* (Konow). N. W. T., Alaska; Circumpolar. Host: Leafminer on *Salix* sp.

*Fenusa wüstneii* Konow, 1894. Wien. Ent. Ztg. 13: 91. ♀, ♂.

*Fenusa alaskana* Kincaid, 1900 (syn. by Benson, 1959. Roy. Ent. Soc., London, Proc. (B) 28: 90).

Taxonomy: Benson, 1959, *loc. cit. supra*, pp. 90-91.

**Genus PROFENUSA MacGillivray, pp. 30-31**

*alumna* (MacGillivray). Syn. of *thomsoni* (Konow).

\**platani* Burks. Calif. Host: *Platanus racemosa*.

*Profenusa platanae* (!) Burks, 1957. Ent. News 68: 207. ♀, ♂.

\**thomsoni* (Konow). Ont., Wis.; Holarctic. Host: Leafminer on *Betula* sp.

*Fenusa thomsoni* Konow, 1886. Wien. Ent. Ztg. 5: 270. ♀.

*Messa alumna* MacGillivray, 1923 (syn. by Benson, 1959, *loc. cit. supra*, p. 91).

Taxonomy: Lindquist, 1959. Canad. Ent. 91: 625-627 (larva, *alumna*).—Benson, 1959, *loc. cit. supra*, p. 91.

**Genus FENUSA Leach, p. 31**

*pusilla* (Lepeletier). Wis., Wash., Oreg., Calif.

Taxonomy: Lindquist, 1959, *loc. cit. supra*, pp. 625-627 (larva).

## Genus NEFUSA Ross, p. 31

*anita* (MacGillivray). Host: *Viola* sp.

## Genus HOPLOCAMPA Hartig, pp. 33-34

\**brevis* (Klug). Ont., Conn., R. I., N. Y.; introd. from Europe. Host: Pear.  
*Tenthredo (Allantus) brevis* Klug, 1814. Gesell. Naturf. Freunde Berlin  
Mag. 8: 53. ♀.

*testudinea* (Klug). N. J.

## Genus CRATEROCERCUS Rohwer, p. 35

*albidovariatus* (Norton). Ark.

## Genus NEOPAREOPHORA MacGillivray, p. 36

*litura* (Klug).

Taxonomy: Nielson, 1958. Canad. Ent. 90: 229-234.

## Genus PRISTIPHORA Latreille, pp. 37-39

Taxonomy and Distribution: Benson, 1962. Brit. Mus. (Nat. Hist). Bul.  
Ent. 12: 394-396 (Holarctic spp.).

\**abbreviata* (Hartig). Oreg., Wash., Calif.; Europe. Host: Pear [California  
pear-slug].

*Nematus abbreviatus* Hartig, 1837. Fam. Blatt. und Holzwespen, p.  
205. ♀.

*Gymnonychus californicus* Marlatt, 1896 (syn. by Benson, 1962, *loc. cit.*  
*supra*, p. 394).

\**aphanta* Wong and Ross. N. Y.

*Pristiphora aphanta* Wong and Ross, 1960. Canad. Ent. 92: 196. ♀.

\**aquilegiae* (Vollenhoven). Ont.; Europe. Hosts: *Aquilegia* spp.

*Nematus aquilegiae* Vollenhoven, 1866. Tidskr. v. Ent. 11: 202. ♀.

Taxonomy: Lindqvist, 1962. Not. Ent. 42: 105.

*bivittata* (Norton).

Taxonomy: Nielson, 1958. Canad. Ent. 90: 229-234.

\**borea* (Konow). Labrador, Que., Man., N.W.T.; Circumpolar.

*Lygaonema boreus* Konow, 1904. Ztg. syst. Hym. Dipt. 4: 253. ♀, ♂.

Taxonomy: Benson, 1962, *loc. cit. supra*, p. 395.

\**cadma* Wong and Ross. Sask.

*Pristiphora cadma* Wong and Ross, 1960. Canad. Ent. 92: 198. ♀.

*californica* (Marlatt). Syn. of *abbreviata* (Hartig).

\**carolinensis* Marlatt. N. C.

*Pristiphora carolinensis* Marlatt, 1896. U. S. Dept. Agr. Div. Ent. Tech.  
Ser. 3:120. ♂.

\**coactula* (Ruthe). Man., Colo., Alaska; Circumpolar. Host: *Vaccinium*.

*Nematus coactulus* Ruthe, 1859. Stett. Ent. Ztg. 20: 307. ♀.

*Nematus winnipeg* Norton, 1867 (syn. by Benson, 1962, *loc. cit. supra*,  
p. 395).

\**elaphita* Wong and Ross. Sask.

*Pristiphora elaphita* Wong and Ross, 1960. Canad. Ent. 92: 194. ♀.

*erichsonii* (Hartig).

Biology: Graham, 1956. For. Sci. 2: 132-160.—Buckner, 1959, Canad.  
Ent. 91: 535.—Drooz, 1960. U. S. Dept. Agr. Tech. Bul. 1212,  
52 pp.—Ives, 1960. Canad. Ent. 92: 668-674.—Turnock, 1960.  
Canad. Ent. 92: 500-516.—Nairn, *et al.*, 1961. Ent. Soc. Manitoba  
Proc. 17: 31.—Ives, 1963. Canad. Ent. 95: 887-892.—Pschorn-  
Walcher, 1963. Ztschr. Angew. Ent. 51: 208.

Morphology: Wong, 1963. Canad. Ent. 95: 897-921.

\**hucksena* Wong and Ross. B. C.

*Pristiphora hucksena* Wong and Ross, 1960. Canad. Ent. 92: 194. ♀.

**idiota** (Norton).

Taxonomy: Nielson, 1958, *loc. cit. supra*, pp. 229-234.

**\*lativentris** (Thomson). Man., N.W.T.; Circumpolar.

*Nematus lativentris* Thomson, 1871. Hyn. Scand., v. 1, p. 99. ♀, ♂.

Distribution: Benson, 1962, *loc. cit. supra*, p. 395.

**\*leechi** Wong and Ross. Mont., B. C., Wash. Host: *Larix occidentalis*.

*Pristiphora leechi* Wong and Ross, 1960. Canad. Ent. 92: 193. ♀, ♂.

**\*leucostoma** (Lindqvist). Man., N.W.T.; Lapland. Host: *Salix* sp.

*Lygaonematus (Lygaeophora) leucostoma* Lindqvist, 1952. Not. Ent.

32: 108. ♀, ♂.

Taxonomy: Benson, 1962, *loc. cit. supra*, p. 394.

**pallipes** Lepeletier. Valid name for *rufipes* of Catalog; refs. and syn. under *rufipes* Lepeletier.

Nomenclature: Benson, 1962, *loc. cit. supra*, p. 394.

**\*paloma** Wong and Ross. Ill.

*Pristiphora paloma* Wong and Ross, 1960. Canad. Ent. 92: 196. ♀.

**\*parbeta** Wong and Ross. Man.

*Pristiphora parbeta* Wong and Ross, 1960. Canad. Ent. 92: 198. ♂.

**\*pseudocoactula** (Lindqvist). Man.; prob. Circumpolar.

*Lygaonematus (Lygaeonematus) pseudocoactulus* Lindqvist, 1952. Not.

Ent. 32: 115. ♀, ♂.

Taxonomy: Benson, 1962, *loc. cit. supra*, p. 395.

**\*reuteri** (Lindqvist). Man.; prob. Circumpolar. Host: *Salix* sp.

*\*Lygaonematus arcticola* Enslin, 1916. Deut. Ent. Ztschr. Beih., p. 514. ♀, ♂. Preocc.

*Lygaonematus (Lygaeophora) reuteri* Lindqvist, 1960. Not. Ent. 40:

33. ♀, ♂.

Taxonomy: Benson, 1962, *loc. cit. supra*, p. 395.

**rufipes** Lepeletier, of Catalog. Valid name, **pallipes** Lepeletier.**\*serrula** Wong and Ross. Calif.

*Pristiphora serrula* Wong and Ross, 1960. Canad. Ent. 92: 196. ♀.

**\*staudingeri** (Ruthe). Man.; Circumpolar. Host: *Salix* sp.

*Nematus staudingeri* Ruthe, 1859. Stett. Ent. Ztg. 20: 306. ♀, ♂.

Distribution: Benson, 1962, *loc. cit. supra*, p. 394.

**\*valvangula** Wong and Ross. ? N. Y.

*Pristiphora valvangula* Wong and Ross, 1960. Canad. Ent. 92: 194. ♂.

**\*venatta** Wong and Ross. Idaho.

*Pristiphora venatta* Wong and Ross, 1960. Canad. Ent. 196. ♀.

**winnipeg** (Norton). Syn. of *coactula* (Ruthe).Genus **PACHYNEMATUS** Konow, pp. 39-41

Taxonomy and Distribution: Benson, 1962. Brit. Mus. (Nat. Hist.)

Bul. Ent. 12: 405-406 (Holarctic spp.).—Benson, 1963. Roy. Ent.

Soc. London Proc., B. 32: 162-164 (*rumicis* group).

**clibrichellus** (Cameron). Host: *Carex*.**\*clitellatus** (Lepeletier). Labrador, Que.; Europe. Host: Grasses.

*Nematus clitellatus* Lepeletier, 1823. Monog. Tenthred., p. 62. ♀.

**corticosis** MacGillivray. Syn. of *vagus* (Fabricius).**diaphanus** (Eversman). Syn. of *kirbyi* (Dahlbom).**\*excisus** (Thomson). Greenland; Arctic Europe.

*Nematus excisus* Thomson, 1862. Svenska Vetensk. Akad. Ofvers. Förh. 19: 628. ♀.

**extensicornis** (Norton). Northern U. S., Canada; Holarctic.

*\*Pachynematus foveolatus* Konow, 1903. Zeit. Hym. Dipt. 3: 379. (Syn. by Benson, 1962, *loc. cit. supra*, p. 406).

- \***freyi** Lindqvist. N. W. T., Yukon; Circumpolar.  
*Pachynematus freyi* Lindqvist, 1949. Not. Ent. 28: 81. ♀.
- \***kirbyi** (Dahlbom). Holarctic. Host: *Carex*.  
*Nematus kirbyi* Dahlbom, 1835, Clavis Hym. Syst., p. 40. ♂.  
*Nematus diaphanus* Eversman, 1847 (syn. by Benson, 1958. Roy. Ent. Soc. Lond., Handb. Ident. Brit. Ins. 6: 237).
- moerens** (Foerster). Host: Gramineae.
- \***nevadensis** Marlatt. Nev.  
*Pachynematus nevadensis* Marlatt, 1896. U. S. Dept. Agr. Div. Ent. Tech. Ser. 3: 110. ♂.
- \***obductus** (Hartig). Northern U. S., Canada; Holarctic.  
*Nematus obductus* Hartig, 1837. Fam. Blatt. und Holzwespe., p. 201. ♀, ♂.  
*Nematus palliventris* Cresson, 1880 (syn. by Benson, 1962, *loc. cit. supra*, p. 405).
- palliventris** (Cresson). Syn. of **obductus** (Hartig).
- \***parvilabris** (Thomson). N. W. T.; prob. Circumpolar.  
*Nematus parvilabris* Thomson, 1862. Svenska Vetensk. Akad. Ofvers. Förh. 19: 638. ♀, ♂.  
 Taxonomy: Benson, 1962, *loc. cit. supra*, p. 405.
- \***rumicis** (Linnaeus). Man., Alaska; Circumboreal. Host: *Rumex*.  
*Tenthredo rumicis* Linnaeus 1758. Syst. Nat., ed. 10, v. 1, p. 559.
- smithae** Ross. N. H.; prob. Circumboreal.
- \***vagus** (Fabricius). Transcontinental in Northern U. S. and Canada; Holarctic. Hosts: *Carex*, *Salix*.  
*Tenthredo vaga* Fabricius, 1781. Spec. Ins., v. 1, p. 415.  
*Pachynematus corticosus* MacGillivray, 1901 (syn. by Benson, 1962, *loc. cit. supra*, p. 405).
- Genus CROESUS Leach, p. 42**
- Taxonomy: Benson, 1963. Ent. Tidskr. 84: 25.
- varus** (Villaret). Host: *Alnus*.
- NEMATUS subgenus PTERONIDEA Rohwer, pp. 42-46**
- \***borealis** Marlatt. Greenland.  
*Nematus borealis* Marlatt in Fox, 1892. Acad. Nat. Sci. Phila. Proc. 44: 133. ♂.
- \***crassus** (Fallén). N. W. T.; Eurasia. Hosts: *Betula*, *Populus*, *Salix*, *Rumex*.  
*Tenthredo crassa* Fallén, 1808. Svenska Vetensk. Akad. Handl. 29: 106.  
 Distribution: Benson, 1962, *loc. cit. supra*, p. 404.
- fulvicrus** Provancher  
*Nematus salicis* Ashmead, change to *Messa salicis*.  
 \**Nematus salicicola* Dalla Torre, 1894. Cat. Hym., v. 1, p. 252. N. name for *salicis* Ashm.
- \***jugicola** Thomson. Man.; N. Europe. Host: *Salix* sp.  
*Nematus jugicola* Thomson, 1871. Hym. Scand., v. 1, p. 146. ♀.
- mendicus** Walsh. Syn. of **oligospilus** Foerster.
- \***oligospilus** Foerster. Transcont. in N. Amer.; Holarctic. Host: *Salix* sp.  
*Nematus oligospilus* Foerster, 1854. Naturh. Ver. Preuss. Rheinl. Verh. 11: 284. ♀.  
*Nematus mendicus* Walsh, 1866 (syn. by Benson, 1962, *loc. cit. supra*, p. 405).
- \***reticulatus** Holmgren. Labrador, N. H., Man., N. W. T., Alaska; Circumpolar. Host: *Vaccinium*.  
*Nematus reticulatus* Holmgren, 1883. Ent. Tidskr. 4: 143. ♀.  
*Pontania glinka* Kincaid, 1900 (syn. by Benson, 1962, *loc. cit. supra*, p. 404).

***Pontania popofiana*** Kincaid, 1900 (syn. by Benson, 1962, *loc. cit. supra*, p. 404).

***salicisodoratus*** Dyar. Wis.

***ventralis*** Say.

Transf. ***Nematus latus*** Cresson to Unplaced Nematinae, p. 54.

Morphology: Judd, 1954. Ent. Soc. Ont. Ann. Rpt. 85: 32-39.

\****villosus*** Thomson. N. W. T.; N. Europe.

***Nematus villosus*** Thomson, 1862. Svenska Vetensk. Akad. Ofvers. Förh. 19: 629. ♀.

Distribution: Benson, 1962, *loc. cit. supra*, p. 404.

#### Genus PONTANIA O. Costa

(= ***Nematus*** subgenus ***Pontania*** O. Costa of Catalog, pp. 46-48)

Taxonomy: Benson, 1960a. Brit. Mus. (Nat. Hist.) Bul. Ent. 8: 367-384.—Benson, 1960b. Ent. Mo. Mag. 96: 60.—Benson, 1962, *loc. cit. supra*, pp. 403-404 (Holarctic spp.).

***acuminata*** (Marlatt). Transf. to ***Phyllocolpa*** Benson.

***agamus*** (Rohwer). Transf. to ***Phyllocolpa*** Benson.

***amentivorus*** (Rohwer). Transf. to ***Amauronematus*** Konow.

***arctica*** (MacGillivray). Alaska, Yukon, N. W. T., Man.; Lapland, Switzerland. Host: Leaf galls on *Salix reticulata*. Transf. from ***Euura*** (*teste* Benson, 1960a, *loc. cit. supra*, p. 377).

***Euura abortiva*** MacGillivray, 1919 (syn. by Benson, 1960a, *loc. cit. supra*, p. 377).

***Pontania delicatula*** MacGillivray, 1919 (syn. by Benson, 1960a, *loc. cit. supra*, p. 377).

***Pontania deminuta*** MacGillivray, 1919 (syn. by Benson, 1960a, *loc. cit. supra*, p. 377).

\****arctophilae*** Benson. Man. Host: Ovip. on *Salix arctophila*.

***Pontania arctophilae*** Benson, 1960. Brit. Mus. (Nat. Hist.) Bul. Ent. 8: 373. ♀.

\****beckettiae*** Benson. Man. Hosts: Galls on *Salix planifolia*, *S. discolor*, *S. glauca*, *S. reticulata*.

***Pontania beckettiae*** Benson, 1960. Brit. Mus. (Nat. Hist.) Bul. Ent. 8: 378. ♀.

***bozemani*** (Cooley). Transf. to ***Phyllocolpa*** Benson.

***bruneri*** Marlatt. Transf. from ***Euura*** Newman (*teste* Benson, 1960a, *loc. cit. supra*, p. 382).

***californica*** Marlatt. Transf. from ***Euura*** Newman (*teste* Benson, 1960a, *loc. cit. supra*, p. 382).

\****crassipes*** (Thomson). Alaska, Yukon, N. W. T., Man.; N. Europe, Switzerland. Hosts: Galls on *Salix herbacea*, *S. polaris*, *S. arctica*, *S. retusa*, *S. arbuscula*, *S. myrsinites*, *S. lapponum*.

***Nematus crassipes*** Thomson, 1871. Hym. Scand. 1: 162. ♀.

***Pontania ora*** Kincaid, 1920 (syn. by Benson, 1960a, *loc. cit. supra*, p. 379).

***Pontania atrata*** MacGillivray, 1919 (syn. by Benson, 1960a, *loc. cit. supra*, p. 379).

***Pontania lorata*** MacGillivray, 1919 (syn. by Benson, 1960a, *loc. cit. supra*, p. 379).

***cressoni*** (Marlatt). Transf. to ***Phyllocolpa*** Benson.

***delicatulus*** (MacGillivray). Syn. of ***arctica*** (MacGillivray).

***deminutus*** (MacGillivray). Syn. of ***arctica*** (MacGillivray).

***destrictus*** (MacGillivray). Syn. of ***Phyllocolpa excavata*** (Marlatt).

\***dolichura** (Thomson). Man.; N. Europe, Austria, Switzerland. Host: Galls on *Salix planifolia*; many other spp. of *Salix* recorded in Palearctic lit.

*Nematus dolichurus* Thomson, 1871. Hym. Scand. 1: 164. ♀, ♂.

Distribution: Benson, 1962, *loc. cit. supra*, p. 404.

**glinka** (Kincaid). Syn. of *Nematus* subg. *Pteronidea reticulatus* Holmgren.

**hoppingi** (Ross). Transf. from *Euura* Newman (*teste* Benson, 1960a, *loc. cit. supra*, p. 382).

**hospes** (Walsh). Transf. from *Euura* Newman (*teste* Benson, 1960a, *loc. cit. supra*, p. 382).

**hyalinus** (Norton). Syn. of *proxima* (Lepeletier).

**leavitti** (Rohwer). Transf. to *Phyllocolpa* Benson.

**leucostoma** (Rohwer). Transf. to *Phyllocolpa* Benson.

**marianus** (Ross). Transf. to *Phyllocolpa* Benson.

**marlatti** (Ross). Transf. to *Phyllocolpa* Benson.

**megacephalus** (Rohwer). Syn. of *Phyllocolpa excavata* (Marlatt).

**melanosoma** (Rohwer). Transf. to *Phyllocolpa* Benson.

**mellinus** Cresson. Transf. to *Phyllocolpa* Benson.

\***myrtillifoliae** Benson. Man. Host: on *Salix myrtillifolia*.

*Pontania myrtillifoliae* Benson, 1960. Brit. Mus. (Nat. Hist.) Bul. Ent. 8: 372. ♀.

**nevadensis** Cresson. Transf. to *Phyllocolpa* Benson.

**pallicornis** (Norton). Transf. to *Phyllocolpa* Benson.

**parvus** Cresson. Transf. to *Phyllocolpa* Benson.

**pectoralis** (Marlatt). Transf. to *Phyllocolpa* Benson.

**pepii** (Ross). Transf. to *Phyllocolpa* Benson.

**popofianus** (Kincaid). Syn. of *Nematus* subg. *Pteronidea reticulatus* Holmgren.

**popuellus** (Ross). Transf. to *Phyllocolpa* Benson.

**populi** (Marlatt). Transf. to *Phyllocolpa* Benson.

\***proxima** (Lepeletier). Northeastern; Europe. Host: *Salix fragilis*.

*Nematus proximus* Lepeletier, 1823. Monog. Tenthred., p. 67. ♀.

*Messa hyalina* Norton, 1864 (syn. by Benson, 1960a *loc. cit. supra*, p. 382).

**quadrifasciatus** (MacGillivray). Syn. of *Amauronematus fallax* (Lepeletier).

**resinicola** Marlatt. Transf. from *Euura* (*teste* Benson, 1960a, *loc. cit. supra*, p. 382).

**robustus** (Marlatt). Transf. to *Phyllocolpa* Benson.

**salicispisum** (Thomas). Transf. from *Euura* Newman (*teste* Benson, 1960a, *loc. cit. supra*, p. 382).

**terminalis** (Marlatt). Transf. to *Phyllocolpa* Benson.

**tundra** (Kincaid). Transf. to *Phyllocolpa* Benson.

#### \*Genus PHYLLOCOLPA Benson

*Phyllocolpa* Benson, 1960b. Ent. Mo. Mag. 96: 60.

Type: *Nematus leucapsis* Tischbein. Orig. desig. (Equals Sect.

A of *Pontania* in Benson, 1960a. Brit. Mus. (Nat. Hist.) Bul. Ent. 8: 380-381.)

Place in Nematini after *Nematus* subg. *Pontania* O. Costa, p. 48.

**\*acutiserra** Lindqvist. Man.; Holarctic.

*Pontania acutiserra* Lindqvist, 1949 (1948). Not. Ent. 28: 66. ♀, ♂.

Taxonomy: Benson, 1960b, *loc. cit. supra*, p. 60.

Distribution: Benson, 1962, *loc. cit. supra*, p. 403.

**acuminata** (Marlatt). Transf. from *Nematus* subg. *Pontania* O. Costa (*teste* Benson, 1960b, *loc. cit. supra*, p. 60).

**agama** (Rohwer). Transf. from *Nematus* subg. *Pontania* O. Costa (*teste* Benson, 1960b, *loc. cit. supra*, p. 60).

**borealis** (Marlatt). N. Y. Transf. from *Euura* Newman (*teste* Benson, 1960b, *loc. cit. supra*, p. 60).

**bozemani** (Cooley). Transf. from *Nematus* subg. *Pontania* O. Costa (*teste* Benson, 1960b, *loc. cit. supra*, p. 60).

**\*coriacea** (Benson). Alta.; Holarctic.

*Nematus (Pontania) coriaceus* Benson, 1953. Ent. Mo. Mag. 89: 150. ♀, ♂.

Taxonomy: Benson, 1960b, *loc. cit. supra*, p. 60.

**cressoni** (Marlatt). Transf. from *Nematus* subg. *Pontania* O. Costa (*teste* Benson, 1960b, *loc. cit. supra*, p. 60).

**excavata** Marlatt. Colo., Calif., Alaska; Holarctic.

*Pontania megacephala* Rohwer, 1908 (syn. by Benson, 1960a, *loc. cit. supra*, p. 380).

*Pontania dstricta* MacGillivray, 1923 (syn. by Benson, 1960a, *loc. cit. supra*, p. 380).

Taxonomy: Benson, 1960b, *loc. cit. supra*, p. 60.

**leavitti** (Rohwer). Transf. from *Nematus* subg. *Pontania* O. Costa (*teste* Benson, 1960b, *loc. cit. supra*, p. 60).

**leucostoma** (Rohwer). Transf. from *Nematus* subg. *Pontania* O. Costa (*teste* Benson, 1960b, *loc. cit. supra*, p. 60).

**mariana** (Ross). Transf. from *Nematus* subg. *Pontania* O. Costa (*teste* Benson, 1960b, *loc. cit. supra*, p. 60).

**marlatti** (Ross). Transf. from *Nematus* subg. *Pontania* O. Costa (*teste* Benson, 1960b, *loc. cit. supra*, p. 60).

**melanosoma** (Rohwer). Transf. from *Nematus* subg. *Pontania* O. Costa (*teste* Benson, 1960b, *loc. cit. supra*, p. 60).

**mellina** (Cresson). Transf. from *Nematus* subg. *Pontania* O. Costa (*teste* Benson, 1960b, *loc. cit. supra*, p. 60).

**nevadensis** (Cresson). Transf. from *Nematus* subg. *Pontania* O. Costa (*teste* Benson, 1960b, *loc. cit. supra*, p. 60).

**pallicornis** (Norton). Transf. from *Nematus* subg. *Pontania* O. Costa (*teste* Benson, 1960b, *loc. cit. supra*, p. 60).

**parva** (Cresson). Transf. from *Nematus* subg. *Pontania* O. Costa (*teste* Benson, 1960b, *loc. cit. supra*, p. 60).

**pectoralis** (Marlatt). Transf. from *Nematus* subg. *Pontania* O. Costa (*teste* Benson, 1960b, *loc. cit. supra*, p. 60).

**peninsularis** Kincaid. Transf. from *Amauronematus* Konow (*teste* Benson, 1960a, *loc. cit. supra*, p. 382; Benson 1960b, *loc. cit. supra*, p. 60).

**pepii** (Ross). Transf. from *Nematus* subg. *Pontania* O. Costa (*teste* Benson, 1960b, *loc. cit. supra*, p. 60).

**popuella** (Ross). Transf. from *Nematus* subg. *Pontania* O. Costa (*teste* Benson, 1960b, *loc. cit. supra*, p. 60).

**populi** (Marlatt). Transf. from *Nematus* subg. *Pontania* O. Costa (*teste* Benson, 1960b, *loc. cit. supra*, p. 60).

**robusta** (Marlatt). Transf. from *Nematus* subg. *Pontania* O. Costa (*teste* Benson, 1960b, *loc. cit. supra*, p. 60).



- terminalis** (Marlatt). Transf. from *Nematus* subg. *Pontania* O. Costa (*teste* Benson, 1960b, *loc. cit. supra*, p. 60).  
**tundra** (Kincaid). Transf. from *Nematus* subg. *Pontania* O. Costa (*teste* Benson, 1960b, *loc. cit. supra*, p. 60).

Genus *EUURA* Newman, pp. 48-51

- Taxonomy and Distribution: Benson, 1962, *loc. cit. supra*, pp. 402-403.  
**abortiva** MacGillivray. Syn. of *Pontania arctica* (MacGillivray).  
**arctica** MacGillivray. Transf. to *Pontania* O. Costa.  
**\*atra** (Jurine). Que., Ont., Alta.; Europe. Hosts: Feeding in stems of *Salix* spp.  
*Pteronius ater* Jurine, 1807. Nouv. Méth. Class. Hym., pl. 6, fig. 6b. ♀.  
*Euura nigra* Provancher (syn. by Benson, 1962, *loc. cit. supra*, p. 403).  
**borealis** (Marlatt). Transf. to *Phyllocolpa* Benson.  
**bruneri** (Marlatt). Transf. to *Pontania* O. Costa.  
**californica** (Marlatt). Transf. to *Pontania* O. Costa.  
**hoppingi** Ross. Transf. to *Pontania* O. Costa.  
**hospes** (Walsh). Transf. to *Pontania* O. Costa.  
**insularis** Kincaid. Syn. of *mucronata* (Hartig).  
**\*lanatae** Malaise. Man., Alta.; Lapland. Hosts: Feed inside buds of *Salix calcicola* and *S. sp.*  
*Euura lanatae* Malaise, 1920. Ent. Tidskr. 40; 105. ♀, ♂.  
 Biology: Benson, 1962, *loc. cit. supra*, p. 403.  
**\*mucronata** (Hartig). Man., Alaska; Circumboreal. Hosts: *Salix* spp., feeding inside buds.  
*Nematus (Cryptocampus) mucronatus* Hartig, 1837. Fam. der Blatt. und Holzwesp., p. 223. ♀, ♂.  
*Euura insularis* Kincaid (syn. by Benson, 1962, *loc. cit. supra*, p. 402).  
**nigra** Provancher. Syn. of *atra* (Jurine).  
**ora** Kincaid. Syn. of *Pontania crassipes* (Thomson).  
**resinicola** (Marlatt). Transf. to *Pontania* O. Costa.  
**salicispisum** (Thomas). Transf. to *Pontania* O. Costa.

Genus *AMAURONEMATUS* Konow, pp. 51-53

- Taxonomy and Distribution: Benson, 1962, *loc. cit. supra*, pp. 396-402 (Holarctic spp.).  
**\*abnormis** (Holmgren). N. W. T., Alaska; Circumpolar.  
*Nematus abnormis* Holmgren, 1883. Ent. Tidskr. 4: 148. ♀.  
*Amauronematus aulatus* MacGillivray, 1919 (syn. by Benson, 1962, *loc. cit. supra*, p. 401).  
**amentivorus** (Rohwer). Trans. from *Nematus* subg. *Pontania* O. Costa, (*teste* Benson, 1960, *loc. cit. supra*, p. 381).  
**\*amentorum** (Foerster). Greenland; Circumboreal. Host: Catkins of *Salix* spp.  
*Nematus amentorum* Foerster, 1854. Naturh. Ver. Preuss. Rheinl. Verh. 11: 337. ♀.  
*Nematus suavis* Ruthe, 1859 (syn. by Benson, 1962, *loc. cit. supra*, p. 396).  
**\*arctica** (Dalla Torre). N. W. T., Alaska; Arctic Europe and Siberia.  
*Nematus arcticus* Thomson, 1871. Hym. Scand., v. 1, p. 134. ♀. Preocc.  
*Nematus arcticola* Dalla Torre, 1894. Cat. Hym., v. 1, p. 207. N. name.  
*Amauronematus arcticola* Enslin, 1915. Deut. Ent. Ztschr. Beih., p. 389. N. name.  
 Taxonomy: Benson, 1962, *loc. cit. supra*, p. 398.  
**atrata** (MacGillivray). Syn. of *Pontania crassipes* (Thomson).

*aulatus* MacGillivray. Syn. of *abnormis* (Holmgren).

*cogitatus* MacGillivray. Syn. of *stordalensis* (Strand).

\**fallax* (Lepeletier). Nova Scotia, Ont., Man., Alta., N. W. T., Yukon, Alaska; Circumboreal. Host: *Salix* sp.

*Nematus fallax* Lepeletier, 1823. Monog. Tenthred., p. 64. ♀, ♂.

*Pontania quadrifasciata* MacGillivray, 1919 (syn. by Benson, 1962, *loc. cit. supra*, p. 399).

\**groenlandicus* Malaise. Greenland, N. W. T., Alaska; Circumboreal. Host: Prob. *Salix* sp.

*Amauronematus groenlandicus* Malaise, 1933. Skr. om Svalb. og Ischavet 53: 3. ♀.

\**hebes* Konow. N. W. T.; prob. Circumpolar.

*Amauronematus hebes* Konow, 1907. Akad. Nauk. Fiz.—Mat. Otd. Zap. 18(3): 17. ♀.

\**helleni* Lindqvist. Que., Man., N. W. T.; Scandinavia.

*Amauronematus helleni* Lindqvist, 1941. Not. Ent. 21: 65. ♀, ♂.

\**histrion* (Lepeletier). Northeastern, west to Colo.; Circumboreal. Host: *Salix* sp.

*Nematus histrion* Lepeletier, 1823. Monog. Tenthred., p. 63. ♀.

*Nematus luteotergum* Norton, 1861 (syn. by Benson, 1962, *loc. cit. supra*, p. 400).

\**hulteni* Malaise. Man., N. W. T., Yukon; Siberia.

*Amauronematus variabilis* var. *hulteni* Malaise, 1931. Arkiv för Zool. 23 A(8): 43. ♀, ♂.

*islandica* (Kincaid). Alaska. Erroneously placed as a syn. of *peninsularis* Kincaid in Catalog (*teste* Benson, 1960a, *loc. cit. supra*, p. 382).

\**itelmena* (Malaise). Man.; Siberia. Host: *Salix alexensis*.

*Pontopristia itelmena* Malaise, 1931. Arkiv för Zool. 23 A(8): 54. ♀.

\**leptocephalus* (Thomson). Man.; Arctic Eurasia.

*Nematus leptocephalus* Thomson, 1862. Svenska Vetensk. Akad. Förhandl. Öfvers. 19: 632. ♀.

\**leucolaenus* (Zaddach). Ont., Man., Sask., Alta., N. W. T., Yukon, Alaska. *Nematus leucolaenus* Zaddach, 1882. Phys. Okon. Ges. Königsb. Schr. 23: 196. ♀.

*Pontania unga* Kincaid 1900 (syn. by Benson, 1962, *loc. cit. supra*, p. 402).

\**longicauda* (Hellén). Man., B. C.; Lapland.

*Nematus (Amauronematus) longicauda* Hellén, 1948. Not. Ent. 27: 113. ♀.

*lorata* (MacGillivray). Syn. of *Pontania crassipes* (Thomson).

*luteotergum* (Norton). Syn. of *histrion* (Lepeletier).

\**microphyes* (Foerster). Ont.; Europe. Host: *Salix* sp.

*Nematus microphyes* Foerster, 1854. Naturh. Ver. Preuss. Rheinl. Verh. 11: 344. ♀.

*neglectus* (Kirby). Ont., Ill., Man., N. W. T., Colo., Yukon, B. C.; Lapland, Siberia. Host: *Salix* sp. Transf. from *Unplaced Nematinae*, p. 54 (*teste* Benson 1962, *loc. cit. supra*, p. 400).

\**nitidipleuris* Malaise. Greenland, Man.; Circumpolar.

*Amauronematus nitidipleuris* Malaise, 1931. Arkiv för Zool. 23 A(8): 45. ♀.

*orbitalis* Marlatt. Syn. of *viduatus* (Zetterstedt).

*peninsularis* (Kincaid). Transf. to *Phyllocolpa* Benson. Delete *islandica* Kincaid from syn.

\**polaris* (Holmgren). N. W. T., Alta. Alaska; Circumboreal. Host: *Salix* sp.

*Nematus polaris* Holmgren, 1883. Ent. Tidskr. 4: 143. ♀.

- \***pravus** Konow. Alaska; N. Eurasia. Host: *Salix* sp.  
*Amauronematus pravus* Konow, 1896. Termes. Fuzetek 18: 176. ♀.
- \***sagmarius** Konow. Ont., Man., Alta., N. W. T., Alaska; Circumboreal. Host: *Salix* sp.  
*Amauronematus sagmarius* Konow, 1896. Termes. Fuzetek 18: 177. ♀, ♂.
- \***semilacteus** (Zaddach). B. C.; N. and Cent. Europe. Host: *Salix* sp.  
*Nematus semilacteus* Zaddach, 1883. Phys. Okon. Ges. Königsb. Schr. 24: 148. ♀.
- \***stordalensis** (Strand). N. W. T., Alaska.  
*Nematus stordalensis* Strand, 1905. Second Norw. Arctic Exped. "Fram" Rpt., no. 3, p. 7. ♀, ♂.  
*Nematus marginifer* Strand, 1905, *loc. cit. supra*, p. 8. ♂. (Syn. by Benson, 1962, *loc. cit. supra*, p. 400.)  
*Amauronematus cogitatus* MacGillivray, 1919 (syn. by Benson, 1962, *loc. cit. supra*, p. 400).  
*Amauronematus varianus* MacGillivray, 1919 (syn. by Benson, 1962, *loc. cit. supra*, p. 400).
- suavis** (Ruthe). Syn. of *amentorum* (Foerster).
- \***tillbergi** Malaise. N. W. T., Alaska; Arctic Europe and Siberia. Host: *Salix* sp.  
*Amauronematus tillbergi* Malaise, 1920. Ent. Tidskr. 40: 125. ♀.
- unga** (Kincaid). Syn. of *leucolaenus* (Zaddach).
- \***variator** (Ruthe). Man., N. W. T., Yukon; Circumboreal. Host: *Salix* sp.  
*Nematus variator* Ruthe, 1859. Stett. Ent. Ztg. 20: 308. ♀.
- varianus** MacGillivray. Syn. of *stordalensis* (Strand).
- \***viduatus** (Zetterstedt). Ont., Sask., Oreg.; Europe.  
*Tenthredo viduata* Zetterstedt, 1838. Ins. Lap., v. 1, p. 351. ♀.  
*Amauronematus orbitalis* Marlatt, 1896 (syn. by Benson, 1962, *loc. cit. supra*, p. 402).

#### Unplaced Nematinae, pp. 54-55

- \***Nematus desmodioides** Walsh, 1866. Ent. Soc. Philad. Proc. 6: 257. ♀, ♂.  
 [Has been considered the same as *N. inquilinus* Walsh, 1866; the latter is also unplaced.]
- \***Nematus latus** Cresson, 1880. Amer. Ent. Soc. Trans. 8: 4. ♀.  
 Nomenclature: Catalog, p. 43, under *ventralis* Say.
- Nematus neglectus** Kirby. Transf. to *Amauronematus* Konow.
- Pontania salicum** Cockerell in Aldrich, 1905. Smiths. Misc. Coll., v. 46, p. 163. *Nom. nud.*

#### EMPRIA subgenus EMPRIA Lepeletier, pp. 55-56

- \***candidata** (Fallén). N. Que. and N. W. T. west to Alta. and Yukon; Circumpolar. Host: *Betula* sp.  
*Tenthredo candidata* Fallén, 1807. Svenska Vetensk. Akad. Handl. 28: 105.  
 Distribution: Benson, 1962, *loc. cit. supra*, p. 390.

#### Genus ALLANTUS Panzer, pp. 58-59

- basalis** (Klug). Host: Rose.

#### Genus ARDIS Konow, p. 66

- sulcata** (Cameron). Delete from Catalog; a misidentification (*teste* D. R. Smith, 1965. Pan-Pacific Ent. 41: 9).
- \***brunniventris** (Hartig). Holarctic; Ont. south to N. C. west to B. C. and Calif.  
*Monophadnus brunniventris* Hartig, 1837. Fam. Blattw. und Holzw., p. 274. ♀.  
 Biology: Middlekauff, 1958. Pan-Pacific Ent. 43: 202 (*sulcata* Cameron).

Genus **LAGIUM** Konow, p. 69**atroviolaceum** (Norton). Wis., Kans.**tardum** (Norton). Kans.Genus **TENTHREDO** Linnaeus, pp. 71-78**\*colon** Klug. Labrador, Que., Ont.; Holarctic. Hosts: Polyphagus.**Tenthredo (Allantus) colon** Klug, 1814. Mag. Gesell. Naturf. Freunde Berlin 8: 182. ♀, ♂.**Tenthredo nigricollis** Kirby, 1882 (syn. by Benson, 1962, *loc. cit. supra*, p. 392).**Tenthredo jocosa** Provancher, 1882 (syn. by Benson, 1962, *loc. cit. supra*, p. 392).**Tenthredo livida** of Catalog, not Linnaeus, p. 75 (syn. by Benson, 1962, *loc. cit. supra*, p. 392).**\*alaskana** (Enslin). Syn. of **devia** (Konow).**\*devia** (Konow). Alaska; Holarctic.**Allantus devius** Konow, 1900. Ent. Nachr. 26: 124. ♀.**Allantus heraclei** Kincaid, 1900 (syn. by Benson, 1959. Roy. Ent. Soc. Lond. Proc. (B) 28: 98). Preocc.**\*Allantus alaskanus** Enslin, 1910. Rev. Russe d'Ent. 10: 371 (syn. by Benson, 1959, *loc. cit. supra*, p. 98). N. name for **heraclei** Kincaid.**jocosa** Provancher. Syn. of **colon** Klug.**livida** of Catalog, not Linnaeus. Syn. of **colon** Klug.**nigricollis** Kirby. Syn. of **colon** Klug.Unrecognized Species of **Tenthredo** Linnaeus, p. 78**heraclei** Kincaid. Syn. of **devia** (Konow).Genus **MACROPHYA** Dahlbom, pp. 79-82**bifasciata** (Say), corrected spelling of **bifasciatus** of Catalog.Superfamily **SIRICOIDEA**Family **SIRICIDAE**Genus **SIREX** Linnaeus, p. 83

Biology: Flanders, 1962. Canad. Ent. 94: 1133-1147.

**areolatus** (Cresson). Adventive in Eastern States, emerging from lumber.**behrensii** (Cresson).

Morphology: Daly, 1963. Ent. Soc. Amer. Ann. 56: 301.

**californicus** (Ashmead).Taxonomy: Benson, 1963. Ent. Mo. Mag. 98: 252 (subsp. of **juvencus** Linnaeus).**edwardsii** Brullé. Ark.**juvencus** (Linnaeus).Taxonomy: Benson, 1963, *loc. cit. supra*, p. 252 (subsp.)**longicauda** Middlekauff. Colo., Idaho, Utah, Oreg.; adventive in Eastern States, emerging from lumber.

Taxonomy: Middlekauff, 1962. Pan-Pac. Ent. 38: 31-32. ♂.

**varipes** Walker. Adventive in Eastern States, and Britain, emerging from lumber.Taxonomy: Benson, 1963, *loc. cit. supra*, p. 252 (hybrid of **juvencus juvencus** Linnaeus x **juvencus californicus** Ashmead).Genus **URO CERUS** Geoffroy, p. 84**californicus** Norton. Adventive in Eastern States, emerging from lumber.

*cressoni* Norton. Minn.

Genus *XERIS* A. Costa, p. 84, Sup. 1, p. 17

*morrisoni morrisoni* (Cresson). Ariz.

*spectrum townesi* Maa. Idaho, Ariz.

Genus *TREMEX* Jurine, pp. 84-85

Nomen Nudum in *Tremex* Jurine

\**Tremex hospes* Cockerell, 1889. Colo. Biol. Assn. Rpt. 10: [3]. *Nom. nud.*

## Family ORUSSIDAE

Catalog: Guiglia, 1957. Mus. Civ. Stor. Nat. Genova Ann. 69: 48-59 (supplement).

## Superfamily CEPHOIDEA

## Family CEPHIDAE

Genus *JANUS* Stephens, p. 88

*bimaculatus* (Norton). Wis., Minn.

*integer* (Norton). Wash.

## Suborder APOCRITA

## Superfamily ICHNEUMONOIDEA

## Family BRACONIDAE

Taxonomy: Hellen, 1958. Soc. Fauna Flora Fennica, Fauna Fennica 4: 3-37.—Beardsley, 1961. Haw. Ent. Soc. Proc. 17: 333-366.—Baltazar, 1962. Pacific Insects 4 (4): 750-771.—Marsh, 1963. Ent. Soc. Amer. Ann. 56: 522-527.

Morphology: Riegel, 1948. Ent. Soc. Amer. Ann. 41: 439-449 (wings).—Iwata, 1959. Kontyu 27: 231-238.—Oeser, 1961. Berlin Zool. Mus. Mitt. 37: 70-71.

Larval taxonomy and anatomy: Short, 1952. Roy. Ent. Soc. London Trans. 103: 67-84.

## Subfamily APHIDIINAE

This group has been given family rank by some authors, including Quilis, 1931 (Eos 7: 25, 27), Stelfox, 1941 (Roy. Irish Acad. Proc. 46 (B): 126-127), Stary, 1960 (Acta Soc. Ent. Čechosl. 57: 238-252) and Mackauer, 1961 (Beitr. z. Ent. 11: 792-803).

Taxonomy: Stary, 1958. Acta Faun. Ent. Mus. Natl. Pragae 3: 53-96 + 12 pls.—Stary, 1960. Acta Soc. Ent. Čechosl. 57: 238-252.—Mackauer, 1961. Beitr. z. Ent. 11: 96-154, 792-803.

Biology: Mackauer, 1961. Ztschr. f. Parasitenk. 20: 576-591.—Stary, 1962. Acta Soc. Ent. Čechosl. 59: 42-58.

Genus *EPHEDRUS* Haliday, p. 91

Embryology: Ivanova-Kasas, 1956. Ent. Obozr. 35: 245-261.

Taxonomy: Stelfox, 1941. Roy. Irish Acad. Proc. 46: 125-142.—Stary, 1958. Acta Faun. Ent. Mus. Natl. Pragae 3: 64-85.

*californicus* Baker. B. C.

*Ephedrus nevadensis* Baker. Remove to syn. under *persicae* Froggatt.

Taxonomy: Mackauer, 1963. Canad. Ent. 95: 923.

- incompletus** (Provancher). N. B. Host: *Macrosiphum agrimoniella* (Ckll.).
- nevadensis** Baker. Remove from syn. under **californicus** Baker and place as syn. of **persicae** Froggatt, *teste* Mackauer, 1963. Ztschr. f. Angew. Ent. 52: 343-354; also Mackauer, 1963. Canad. Ent. 95: 924.
- nitidus** Gahan. Syn. of **persicae** Froggatt, *teste* Mackauer, 1963. Ztschr. f. Angew. Ent. 52: 343-354.
- \***persicae** Froggatt. Distribution world-wide. Hosts: *Myzus persicae* (Sulz.), *M. cerasi* (F.), *M. momonis* Mats., *M. mumeicola* Mats., *M. ligustri* (Mosley), *Brachycaudus persicicola* (Boisd.), *B. cardui* (L.), *B. amygdalinus* (Schout.), *B. klugkisti* (Börn.), *B. helichrysi* (Kalt.), *B. lychnidis* (L.), *Brevicoryne brassicae* (L.), *Dysaphis plantaginea* (Pass.), *D. crataegi* (Kalt.), *D. devector* (Wlkr.), *Macrosiphum euphorbiae* (Thos.), *Allocotaphis quaeestionis* (Börn.), *Toxoptera aurantii* (Fonsc.), *Aphis fabae* Scop., *A. idaei* v. d. Goot, *A. rubrorum* (Börn.), *A. craccivora* Koch, *A. medicaginis* Koch, *A. umbrellae* (Börn.), *Longiunguis pyrrarius* (Pass.), *Phorodon humuli* (Schränk), *Rhopalosiphum padi* (L.), *R. maidis* Fitch, *Roepkea marchali* (Börn.).
- Ephedrus persicae** Froggatt, 1904. Agr. Gaz. 15: 611-612. ♀.
- Ephedrus nevadensis** Baker, 1909. (Syn. by Mackauer, 1963. Ztschr. f. Angew. Ent. 52: 352.)
- Ephedrus nitidus** Gahan, 1917. (Syn. by Mackauer, 1963, *loc. cit. supra*, p. 352.)
- \***Ephedrus vidali** Quilis, 1931. Eos 7: 72. ♀. (Syn. by Mackauer, 1963, *loc. cit. supra*, p. 352.)
- \***Ephedrus pulchellus** Stelfox, 1941. Roy. Irish Acad. (B) 46: 133. ♀. (Syn. by Mackauer, 1963, *loc. cit. supra*, p. 352.)
- \***Ephedrus interstitialis** Watanabe, 1941. Insecta Matsumurana 15: 139. ♀. (Syn. by Mackauer, 1963, *loc. cit. supra*, p. 352.)
- \***Ephedrus impressus** Granger, 1949. Inst. Sci. Madagascar Mem. (A) 2: 412. ♀, ♂. (Syn. by Mackauer, 1963, *loc. cit. supra*, p. 352.)
- \***Ephedrus (E.) holmani** Stary, 1958. Acta Faun. Ent. Mus. Natl. Pragae 3(34): 63, 68-79. ♀, ♂. (Syn. by Mackauer, 1963, *loc. cit. supra*, p. 352.)
- Taxonomy: Mackauer, 1963. Ztschr. f. Angew. Ent. 52: 343-354.

#### Genus PRAON Haliday, pp. 91-92

Taxonomy: Mackauer, 1959. Beitr. z. Ent. 9: 810-865 (revision of European species).—Mackauer, 1961. Beitr. z. Ent. 11: 794.

**abjectum** (Haliday). Change from **abjectus**.

**aguti** C. F. Smith. N. B.; Calif. Hosts: *Macrosiphum frigidicola* (G. and P.), *Myzus persicae* (Sulz.).

Biology: Sekhar, 1957. Ent. Soc. Amer. Ann. 50: 370-375.—Sekhar, 1959. Current Sci. 28: 333-335.—Sekhar, 1960. Canad. Jour. Zool. 38: 593-603.

**alaskense** Ashmead. Change from **alaskensis**.

**americanum** (Ashmead). Change from **americanus**.

**nanus** Baker.

Taxonomy: Mackauer, 1963. Canad. Ent. 95: 925-926.

**occidentale** Baker. Change from **occidentalis**.

Taxonomy: Mackauer, 1963. Canad. Ent. 95: 926-927.

Biology: Schlinger, 1960. Jour. Econ. Ent. 53: 151-154.

**palitans** Muesebeck. Ariz., Calif., Colo., Kans., Nebr., Nev., N. Mex., Utah. Hosts: *Therioaphis maculata* (Buckt.), *T. riehmii* (Börner).

**Praon exoletum palitans** Muesebeck. Mackauer, 1959. Beitr. z. Ent. 9: 832, 870.

Propagation: Finney, Putler and Dawson, 1960. Jour. Econ. Ent. 53: 657.

- Colonization and establishment: Van den Bosch, *et al.*, 1959. Jour. Econ. Ent. 52: 136-141.—Barnes, 1960. Jour. Econ. Ent. 53: 1094-1096.
- Biology: Van den Bosch, *et al.*, 1959. Jour. Econ. Ent. 52: 142-154.—Schlinger and Hall, 1959. Jour. Econ. Ent. 52: 154-157.—Schlinger and Hall, 1960. Ent. Soc. Amer. Ann. 53: 144-159.
- Taxonomy: Mackauer, 1959. Beitr. z. Ent. 9: 829-833, 870.
- pequodorum** Viereck. Remove from syn. under **simulans** (Provancher). Replaces **simulans** of Catalog and authors, not Provancher (*teste* M. J. P. Mackauer, *in litt.*). U. S. and south. Canada. Hosts: *Acerthosiphon pisum* (Harris); *Macrosiphum euphorbiae* (Thomas).
- simulans** (Provancher). Ont.; Md. Host: *Dactynotus rudbeckiae* (Fitch). Not **simulans** (Provancher) of authors and Catalog, which is really **pequodorum** Viereck (*teste* Mackauer, *in litt.*). Remove **pequodorum** Viereck from syn. and treat as valid sp.
- unicum** C. F. Smith. Change from **unicus**. Calif. Hosts: *Aphis rumicis* L., *Macrosiphum ambrosiae* (Thomas), *M. rosae* (L.), *Myzus persicae* (Sulz.), *Phorodon menthae* (Buckt.).
- Biology: Schlinger and Hall, 1960. Ent. Soc. Amer. Ann. 53: 411.—Schlinger, 1960. Jour. Econ. Ent. 53: 151-154.
- virginiense** Ashmead. Change from **virginiensis**.

#### Genus MONOCTONUS Haliday, p. 92

##### \***crepidis** (Haliday). Que., N. B.

*Aphidius crepidis* Haliday, 1834. Ent. Mag. 2: 94. ♀, ♂.

\**Monoctonus paludum* Marshall, 1896. In André, Spec. Hym. Eur. Alg. 5: 548. ♀.

Taxonomy: Stary, 1959. Acta Soc. Ent. Čechosl. 56: 246-247.

Biology: Griffiths, 1960. Bul. Ent. Res. 51: 303-319.—Griffiths, 1961. Bul. Ent. Res. 52: 147-161.

#### \*Genus EUAPHIDIUS Mackauer

*Aphidius* subg. *Euaphidius* Mackauer, 1961. Beitr. z. Ent. 11: 110.

Type: *Aphidius pterocommae* Ashmead. Orig. desig.

*Euaphidius* Mackauer, changed status. Mackauer, 1961, Beitr. z. Ent. 11: 801.

Insert in Aphidiinae following **Monoctonus** Haliday, p. 92.

**pterocommae** (Ashmead). N. B., Mich., Iowa, Utah. Hosts: *Pterocomma bicolor* (Oestl.), *Clavigerus populifoliae* (Fitch). Transf. from

*Aphidius* Nees, p. 94, *teste* Mackauer, 1961. Beitr. z. Ent. 11: 110.

*Aphidius gregarius* Marshall, 1896. In André, Spec. Hym. Eur. Alg. 5: 569. Syn. by Mackauer, 1961, *loc. cit. supra*, p. 110.

*Aphidius pterocommae* Marshall, 1896. In André, Spec. Hym. Eur. Alg. 5: 578. Syn. by Mackauer, 1961, *loc. cit. supra*, p. 110.

#### Genus XENOSTIGMUS C. F. Smith

(= *Aphidius* subgenus *Xenostigmus* C. F. Smith, p. 92)

Raised to generic rank (*teste* Stary, 1960. Acta Soc. Ent. Čechosl. 57: 238, 247, 251).

Taxonomy: Mackauer, 1961. Beitr. z. Ent. 11: 801.

**bifasciatus** (Ashmead). Calif.

Taxonomy: Stary, 1960, *loc. cit. supra*, p. 251.

#### APHIDIUS subgenus PROTAPHIDIUS Ashmead, pp. 92-93

**Protaphidius** Ashmead (= *Coelonotus* Foerster, preocc.) is not known to occur in North America, *teste* Stary, 1958. Acta Faun. Ent. Mus. Natl. Pragae 3: 90. All species in Catalog are transf. to **Pauesia** Quilis.

\*Genus *PAUESIA* Quilis

*Pauesia* Quilis, 1931. Eos 7: 67.

Type: *Pauesia albuferensis* Quilis. Orig. desig.

Place in Aphidiinae after *Xenostigmus* C. F. Smith, p. 92.

*Aphidius* subg. *Protaphidius* of Catalog and authors. (Syn. by Stary, through *Paraphidius* Stary, 1961. Acta Ent. Mus. Natl. Pragae 34: 22). All species listed in Catalog under *Aphidius* subg. *Protaphidius*, pp. 92-93, are to be transf. to *Pauesia* and all are to be cited as n. combs., except *californicus* (Ashmead) which was transf. to *Pauesia* by Stary, 1961; all adjectival names are to have feminine endings and all author names are to be in parentheses.

*Aphidius* subg. *Paraphidius* Stary, 1958. Acta Faun. Ent. Mus. Natl. Pragae 3: 91.

Type: *Aphidius californicus* Ashmead. Monob. and orig. desig.

*Paraphidius* Stary, 1960. Acta Faun. Ent. Mus. Natl. Pragae 6: 5. (Changed status).

Taxonomy: Stary, 1960. Acta Faun. Ent. Mus. Natl. Pragae 6: 5-44 (revision of European species).

*californica* (Ashmead). Va.; Ont.

\**ponderosae* (Muesebeck). B. C.; Calif. Host: *Cinara* sp.

*Aphidius* (*Protaphidius*) *ponderosae* Muesebeck, 1958. Ent. News 69: 141. ♀, ♂.

Genus *APHIDIUS* Nees, pp. 92-96

\**Incubus* Schrank, 1802. Fauna Boica, v. 2, p. 173.

Type: *Ichneumon aphidum* Linnaeus. By monotypy.

*Incubus* Schrank suppressed, and *Aphidius* Nees placed on Official List of Generic Names with *Aphidius avenae* Haliday as type, Opinion 284, Internatl. Comm. Zool. Nomencl., October, 1954.

The groups treated in the Catalog as subgenera of *Aphidius* are now considered valid genera, teste Stary, 1960. Acta Faun. Ent. Mus. Natl. Pragae 6: 6.—Stary, 1960. Acta Soc. Ent. Českosl. 57: 238.

Embryology: Ivanova-Kasas, 1956. Ent. Obozr. 35: 245-261.

\**alius* Muesebeck. Calif. Host: *Macrosiphum rosae* (L.).

*Aphidius* (*Aphidius*) *alius* Muesebeck, 1958. Ent. News 69: 142.

Biology: Schlinger and Hall, 1960. Ent. Soc. Amer. Ann. 53: 405.—Schlinger, 1960. Jour. Econ. Ent. 53: 151-154.

*coloratus* Baker.

Taxonomy: Mackauer, 1963. Canad. Ent. 95: 928-930.

*confusus* Ashmead. Hosts: *Macrosiphum rudbeckiae* (Fitch), *M. rosae* (L.).

Biology: Schlinger and Hall, 1960. Ent. Soc. Amer. Ann. 53: 405.—Schlinger, 1960. Jour. Econ. Ent. 53: 151-154.

*delicatus* Baker.

Taxonomy: Mackauer, 1963. Canad. Ent. 95: 928.

*ferruginosus* Baker, changed status.

Taxonomy: Mackauer, 1963. Canad. Ent. 95: 930-931.

\**matricariae* Haliday. Holarctic. Hosts: *Aphis fabae* Scop., *A. gossypii* Glov., *A. helianthi* Monell, *A. nasturtii* Kalt., *A. rumicis* L., *A. umbrella* (Börner), *Anuraphis crataegifoliae* (Fitch), *Aulacorthum solani* (Kalt.), *Brachycaudus amygdalinus* (Schout.), *B. cardui* (L.), *B. helichrysi* (Kalt.), *B. lychnidis* (L.), *Calaphis* sp., *Capitophorus* sp., *Dactynotus rudbeckiae* (Fitch), *Galiobium langei* Börner, *Liosomaphis berberidis* (Kalt.), *Macrosiphoniella abrotani* (Wlkr.), *Macrosiphum rosae* (L.), *Metopolophium dirhodum* (Wlkr.), *Myzus ajugae* Schout., *M. certus* (Wlkr.), *M. ornatus* Laing, *Nasonovia ribis-nigri* (Mosl.), *Neomyzus circumflexus* (Buckt.), *Ovatus* sp., *Phorodon humuli* (Schrank),



*Rhopalosiphum padi* (L.), *Sappaphis mali* (Ferr.), *S. plantaginea* (Pass.), *Schizaphis graminum* (Rond.).

\**Aphidius cirsi* Haliday, 1834. Ent. Mag. 2: 101. ♀. Preocc. (Syn. by Schlinger and Mackauer, 1963. Ent. Soc. Amer. Ann. 56: 648.)

*Aphidius matricariae* Haliday, 1834. Ent. Mag. 2: 103. ♀, ♂.

\**Aphidius arundinis* Haliday, 1834. Ent. Mag. 2: 104. ♀. (Syn. by Schlinger and Mackauer, 1963, loc. cit. supra, p. 648.)

*Aphidius phorodontis* Ashmead, 1889 (1888). U. S. Natl. Mus. Proc. 11: 658, 662. ♀, ♂. (Syn. by Schlinger and Mackauer, 1963, loc. cit. supra, p. 648.)

\**Aphidius polygona* Marshall, 1896. In André, Spec. Hym. Eur. Alg., v. 5, p. 602. ♀. (Syn. by Schlinger and Mackauer, 1963, loc. cit. supra, p. 648.)

\**Aphidius lychnidis* Marshall, 1896. In André, Spec. Hym. Eur. Alg., v. 5, p. 607. ♂. (Syn. by Schlinger and Mackauer, 1963, loc. cit. supra, p. 648.)

\**Aphidius valentinus* Quilis, 1931. Eos 7: 46. ♀. (Syn. by Schlinger and Mackauer, 1963, loc. cit. supra, p. 648.)

\**Aphidius affinis* Quilis, 1931. Eos. 7: 48. ♀, ♂. (Syn. by Schlinger and Mackauer, 1963, loc. cit. supra, p. 648.)

\**Aphidius renominatus* Hincks, 1943. Ent. Monthly Mag. 79: 44. N. name for *A. cirsi* Haliday, preocc. (Syn. by Schlinger and Mackauer, 1963, loc. cit. supra, p. 648.)

*Aphidius nigrитеleus* C. F. Smith, 1944. Aphidiinae of No. Amer., pp. 51, 61. ♀, ♂. (Syn. by Schlinger and Mackauer, 1963, loc. cit. supra, pp. 648-649.)

Taxonomy, biology, distribution, hosts: Schlinger and Mackauer, 1963. Ent. Soc. Amer. Ann. 56: 648-653.

**nigrіpes** Ashmead. N. B., N. C., Kans., Minn., Calif. Hosts: *Macrosiphum avenae* (F.), *Aphis nasturtii* Kalt., *Dactynotus ambrosiae* (Thomas).

Biology: Schlinger, 1960. Jour. Econ. Ent. 53: 151-154.

**nigrіteleus** C. F. Smith. Syn. of *matricariae* Haliday.

**ohioensis** C. F. Smith. N. B. Host: *Dactynotus rudbeckiae* (Fitch).

**pisivorus** C. F. Smith. Syn. of *pulcher* Baker.

**phorodontis** Ashmead. Syn. of *matricariae* Haliday.

**polygonaphis** (Fitch). N. B.

**pulcher** Baker. North Amer.

*Aphidius pisivorus* C. F. Smith. (Syn. by Mackauer, 1963, Canad. Ent. 95: 931-932.)

Taxonomy: Mackauer, 1963, loc. cit. supra, pp. 931-932.

**ribis** Haliday. B. C.

Biology: Schlinger and Hall, 1960. Ent. Soc. Amer. Ann. 53: 407.

**rosae** Haliday. Delete from Catalog. I have seen no authentically identified specimens of this species from No. America. The records given under *rosae* in the Catalog apparently apply to **nigrіpes** Ashmead.

\***salicis** Haliday. Europe; N. B., Ont., Calif. Host: *Cavariella aegopodii* (Scop.)

*Aphidius salicis* Haliday, 1834. Ent. Mag. 2: 102. ♀, ♂.

\***smithi** Sharma and Subba Rao. India; Calif., Wash., Idaho, Colo., Kans., Wis., Hawaii. Host: *Acyrtosiphon pisum* (Harris).

*Aphidius (Aphidius) smithi* Sharma and Subba Rao, 1959 (1958). Indian Jour. Ent. 20: 183. ♀, ♂.

Biology: Hagen and Schlinger, 1960. Calif. Agr. 14: 5.—Wiackowski, 1962. Polskie Pismo Ent. 32: 253-310.

Genus **LYSAPHIDUS** C. F. Smith

(= *Aphidius* subgenus *Lysaphidus* C. F. Smith, p. 95)

Raised to generic rank (*teste* Stary, 1960. Acta Soc. Ent. Čechosl. 57:

238, 248, 250). Author names of the contained species are placed in parentheses.

Taxonomy: Narayanan, *et al.*, 1962. Beitr. z. Ent. 12: 676-677.

**adelocarinus** (C. F. Smith). N. B., Calif. Hosts: *Aphis helianthi* Monell, *Capitophorus shepherdiae* G. and B.

**rosaphidis** (C. F. Smith). N. B.

Genus **LYSIPHLEBUS** Foerster

(= *Aphidius* subgenus *Lysiphlebus* Foerster, pp. 95-96)

Raised to generic rank (*teste* Mackauer, 1960. Portici Lab. Ent. Agr. Bol. 18: 230-236.—Stary, 1960. Acta Soc. Ent. Čechosl. 57: 238, 248, 250). Place in parentheses author names of **knowltoni** and **utahensis** and remove parentheses from author of **flavidus**.

Taxonomy: Mackauer, 1960, *loc. cit. supra*, pp. 230-236.—Mackauer, 1960. Beitr. z. Ent. 10: 582-623.—Stary, 1961. Polskie Pismo Ent. 31: 97-103.

**chrysoaphidis** C. F. Smith. Syn. of **testaceipes** (Cresson).

\***distinctus** Mackauer. Nev. Host: *Microsiphum acophorum* S. & K.

**Lysiphlebus** (*Lysiphlebus*) **distinctus** Mackauer, 1960. Portici Lab. Ent. Agr. Bol. 18: 236. ♀, ♂.

**fuscicornis** (Ashmead). Transf. from **Diaeretus** Foerster, p. 97, *teste* Mackauer, 1960. Portici Lab. Ent. Agr. Bol. 18: 240.

**salicaphis** (Fitch). Transf. from **Diaeretus** Foerster, p. 97, *teste* Mackauer, 1960. Portici Lab. Ent. Agr. Bol. 18: 243.

**testaceipes** (Cresson). South. Canada, all Continental U. S.; Mexico, West Indies, Central and S. America, Hawaii. Hosts: *Aphis fabae* Scop., *A. pseudohederae* Theob., *A. spiraeicola* Patch, *Rhopalosiphum maidis* (Fitch).

**Aphidius** (*Lysiphlebus*) **chrysoaphidis** C. F. Smith, 1944. Aphidiinae of No. Amer., pp. 77, 78. ♀, ♂. Syn. by Mackauer, 1960. Portici Lab. Ent. Agr. Bol. 18: 245.

Biology: Schlinger and Hall, 1960. Ent. Soc. Amer. Ann. 53: 407-409.

**TRIOXYS** subgenus **TRIOXYS** Haliday, pp. 96-97

**utilis** Muesebeck. Ariz., Calif., Nev., N. Mex., Utah; Mexico, Iraq, Iran, Israel, Turkey. Hosts: *Therioaphis maculata* (Buckt.), *T. riehmii* (Börner).

Propagation: Finney, Putler, and Dawson, 1960. Jour. Econ. Ent. 53: 658.

Distribution and importance: Van den Bosch, 1957. Jour. Econ. Ent. 50: 353-356.

Colonization and establishment: Van den Bosch, *et al.*, 1959. Jour. Econ. Ent. 52: 136-141.—Barnes, 1960. Jour. Econ. Ent. 53: 1094-1096.

Biology: Van den Bosch, *et al.*, 1957. Jour. Econ. Ent. 52: 142-154.—Schlinger and Hall, 1959. Jour. Econ. Ent. 52: 154-157.—Schlinger and Hall, 1961. Ent. Soc. Amer. Ann. 54: 34-45.—Hall, Schlinger and Van den Bosch, 1962. Ent. Soc. Amer. Ann. 55: 566-568.

Taxonomy: Mackauer, 1959. Beitr. z. Ent. 9: 168, 872.—Hall, Schlinger and Van den Bosch, 1962. Ent. Soc. Amer. Ann. 55: 566-588.

**TRIOXYS** subgenus **ACANTHOCAUDUS** C. F. Smith, p. 97

\***schlingeri** Muesebeck. B. C. (near Lytton). Host: *Macrosiphum ambrosiae* (Thomas).

**Trioxys** (*Acanthocaudus*) **schlingeri** Muesebeck, 1958. Ent. News 69: 144. ♀, ♂.

Genus **DIAERETUS** Foerster, p. 97

Delete from Catalog. No North American species known. Transf. **rapae** (M'Intosh) to **Diaeretiella** Stary, with **chenopodiaphidis** (Ashmead) as syn.

under *rapae*; transf. *fuscicornis* (Ashmead) and *salicaphis* (Fitch) to *Lysiphlebus* Foerster.

\*Genus **DIAERETIELLA** Stary

*Diaeretus* of authors, not Foerster.

*Diaeretiella* Stary, 1960. Acta Soc. Ent. Čechosl. 57: 242, 248.

Type: *Aphidius rapae* M'Intosh. Orig. desig.

Insert in Aphidiinae after *Lysiphlebus* Foerster, p. 96.

Taxonomy: Stary, 1961. Acta Ent. Mus. Natl. Pragae 34: 383-397.—  
Mackauer, 1961. Beitr. z. Ent. 11: 801.

*rapae* (M'Intosh). Distribution virtually world-wide. Hosts: *Cuernavaca noxius* (Mordv.), *Aphis acanthi* Schrank, *A. rumicis* L., *A. nasturtii* Kalt., *Calaphis betulaeacola* (Fitch), *Euceraphis betulae* (Koch), *Hayhurstia atriplicis* (L.), *Hyadaphis foeniculi* (Pass.), *Macrosiphum euphorbiae* (Thos.), *Rhopalosiphum maidis* (Fitch), *Myzaphis beibienkoi* Narzyk., *Schizaphis scirpi* (Kittle).

*Lipolexis chenopodiaphidis* Ashmead. (Syn. by Stary, 1961. Acta Ent. Mus. Natl. Pragae 34: 385.)

\**Diaeretus nipponensis* Viereck, 1911. U. S. Natl. Mus. Proc. 40: 182.  
♂, ♀. (Syn. by Stary, 1961, loc. cit. supra, p. 385.)

\**Diaeretus napus* Quilis, 1931. Eos 7: 71. ♀. (Syn. by Stary, 1961, loc. cit. supra, p. 385.)

\**Aphidius affinis* Quilis, 1931. Eos 7: 48. ♀, ♂. (Syn. by Stary, 1961, loc. cit. supra, p. 385.)

\**Diaeretus plesiorapae* Blanchard, 1940. Rev. Chil. Hist. Nat. 44: 45.  
♀, ♂. (Syn. by Stary, 1961, loc. cit. supra, p. 385.)

\**Diaeretus aphidum* Mukerji and Chatterjee, 1950. Roy. Ent. Soc., London Proc. (B) 19: 4. ♀, ♂. (Syn. by Stary, 1961, loc. cit. supra, p. 385.)

\*Genus **BOREOGALBA** Mackauer

*Boreogalba* Mackauer, 1962. Canad. Ent. 94: 1107.

Type: *Boreogalba gladifer* Mackauer. By monotypy and orig. desig.

Insert in Aphidiinae after *Diaeretus* Foerster, p. 97.

\**gladifer* Mackauer. Que. (Great Whale River).

*Boreogalba gladifer* Mackauer, 1962. Canad. Ent. 94: 1108. ♀.

Subfamily **EUPHORINAE**

Tribe **METEORINI**

Genus **METEORUS** Haliday, pp. 98-101

*acronyctae* Muesebeck. Host: *Halisodota ingens* Hy. Edw.

*angustipennis* Muesebeck. W. Va.

*argyrotaeniae* Johansen. Wis.

*autographae* Muesebeck. Host: *Autoplusia egea* (Gn.).

*bakeri* Cook and Davis. Wis. Host: *Dasychira plagiata* (Wlkr.).

*campestris* Viereck. Maine.

\**clinophthalmicus* Shenefelt. Wis. (Nekoosa).

*Meteorus clinophthalmicus* Shenefelt, 1961. Ent. Soc. Wash. Proc. 63: 276. ♀, ♂.

*dimidiatus* (Cresson). Hosts: *Epizeuxis* sp., *Platynota stultana* Wlsm.

*fumipennis* Muesebeck. Ariz.

*hypophlaei* Cushman. Idaho.

*indagator* (Riley). Host: *Dioryctria auranticella* (Grote).

**laphygmae** Viereck. N. Mex.; Costa Rica, Columbia, Venezuela. Host: *Prodenia eridania* (Cram.).

**levis** Muesebeck. Calif.

**maximus** Muesebeck. S. C., Ga.

**niveitarsis** (Cresson). Maine, Mass., Wis., Oreg., Alaska. Host: *Eulype hastata* (L.).

\***pinifolii** Mason. Calif., B. C., Alta. Host: *Recurvaria milleri* Busck.  
*Meteorus pinifolii* Mason, 1960. Canad. Ent. 92: 143. ♀, ♂.

**politus** (Provancher). Mich., Minn.

**proximus** (Cress.). Minn.

**tauricornis** (Provancher). Md., Fla.

**tersus** Muesebeck. Host: *Amorbia essigana* Busck.

Biology: Fleschner, Ricker, and Johnson, 1957. Calif. Avocado Soc. Ybk. 41: 115.

**tibialis** Muesebeck. Ont. Host: *Hyperplatys aspersa* (Say).

**trachynotus** Viereck. N. S., Maine, Tenn., Mich., Wis., Minn., Iowa, Colo. Distribution apparently includes all U. S. Hosts: *Dioryctria reniculella* (Grote), *Choristoneura pinus* Freem., *Archips rosanus* (L.), *Epismus argutatus* (Clem.).

Biology: McGugan, 1955. Canad. Ent. 87: 178-187.

**versicolor** (Wesmael).

Biology: Clausen, 1956. U. S. Dept. Agr. Tech. Bul. 1139, p. 114.—Dowden, 1962. U. S. Dept. Agr., Agr. Handb. 226, p. 60.

#### \*Tribe EUPHORINI

Biology: Muesebeck, 1963. Ent. Soc. Wash. Proc. 65: 306 (host relations).

#### Genus ARIDELUS Marshall, p. 98

**melanderi** (Brues). N. Y., Tenn.

**nigrithorax** Muesebeck. S. C.

#### Genus PERILITUS Nees, p. 101

Taxonomy and host relations: Smith, 1953. Ohio Jour. Sci. 53 (3): 173-178.

**coccinellae** (Schrank). Hosts: *Coccinella novemnotata* Hbst., *C. septempunctata* L., *C. quinquepunctata* L., *Adonia variegata* (Goeze), *Halysia quattuordecimguttata* Balduf, *Coleomegilla maculata lengi* Timb.

Biology: Stich, 1929. Ztschr. f. wiss. Insektenbiol. 24: 91-95.—Ibrahim, 1955. Soc. Ent. d'Egypte Bul. 39: 414-416.—Hudon, 1959. Canad. Ent. 91: 63-64.—Walker, 1961. Ent. Monthly Mag. 97: 240-244.

#### \*Genus ROPALOPHORUS Haliday

**Ropalophorus** Haliday, 1840. In Westwood, Introd. Mod. Classif. Ins. 2, Synopsis p. 61.

Type: *Microctonus clavicornis* Wesmael. By monotypy and orig. desig.

Insert in Euphorinae following *Perilitus* Nees, p. 101.

\***wisconsinensis** Shenefelt. Wis. (Nekoosa).

**Ropalophorus wisconsinensis** Shenefelt, 1960. Ent. Soc. Amer. Ann. 53: 543. ♀.

#### \*Genus STREBLOCERA Westwood

**Streblocera** Westwood, 1833. Phil. Mag. and Jour. Sci. (3) 3: 342.

Type: *Streblocera fulviceps* Westwood. By monotypy.

\***Eutanycerus** Foerster, 1862. Naturh. Ver. Rheinlande Verh. 19: 251.

Type: *Eutanycerus halidayanus* Foerster. By monotypy.

\**Lecythodella* Enderlein, 1912. Arch. f. Naturgesch. 78A (2): 41.

Type: *Lecythodella garleppi* Enderlein. By monotypy.

Place in Euphorinae after *Perilitus* Nees, p. 101.

Taxonomy: Muesebeck, 1936. U. S. Dept. Agr. Misc. Pub. 241, pp. 13-14.  
—De Saeger, 1942. Rev. de Zool. et de Bot. Africaines 35: 376-385.—Watanabe, 1942. Insecta Matsumurana 16: 1-12.—De Saeger, 1946. Exploration du Parc National Albert, fas. 50, pp. 144-178.—Granger, 1949. Inst. Sci. Madagascar, Mem., Ser. A., Biol. Anim., v. 2, pp. 318-320.—Walley, 1963. Canad. Ent. 95: 999-1001.

\**pulvillicornis* Walley. Que. (Gatineau Park).

*Streblocera pulvillicornis* Walley, 1963. Canad. Ent. 95: 999. ♀.

#### Genus MICROCTONUS Wesmael, p. 102

Taxonomy and host relations: Smith, 1953. Ohio Jour. Sci. 53 (3): 173-178.

*aethiops* (Nees). N. J., Fla., Ariz. Hosts: *Hypera meles* (F.), *H. nigrirostris* (F.), *H. postica* (Gyll.), *Sitona crinita* Hbst., *S. hispidula* (F.), *S. humeralis* Steph., *S. spp.*

Biology: Loan and Holdaway, 1961. Canad. Ent. 92: 1057-1079.—Coles and Putler, 1963. Jour. Econ. Ent. 56: 609-610.

*carabivorus* Muesebeck. Md., Tenn., Mich., Iowa, Idaho.

\**invictus* Muesebeck. Calif., Ariz. Host: *Trigonoscuta* sp.

*Microctonus invictus* Muesebeck, 1961. Brooklyn Ent. Soc. Bull. 56: 59. ♀, ♂.

\**pachylobii* Muesebeck. La., Fla. Host: *Pachylobius picivorus* (Germar).

*Microctonus pachylobii* Muesebeck, 1961. Brooklyn Ent. Soc. Bull. 56: 58. ♀, ♂.

\**sitonae* Mason. Ont. Host: *Sitona scissifrons* Say.

*Microctonus sitonae* Mason, 1960. Canad. Ent. 92: 436. ♀, ♂.

Biology: Loan, 1963. Ent. Soc. Amer. Ann. 56: 605-611.

*vittatae* Muesebeck. Apparently distributed over most of U. S. and south. Canada; also in Hawaii, Japan and Korea. Hosts: *Phyllotreta striolata discedens* Weise, *P. s. lineolata* Chitt., *P. bipustulata* (F.).

Taxonomy: Watanabe, 1955. Mushi 29 (8): 51-55.

Biology: Nagasawa, 1943. Mushi 15: 103-107.—Nagasawa, 1943. Shokubutsu oyobi Dobutsu 11: 460-466 (In Japanese).—Nagasawa, 1947. Seibutsu 2: 48-52.—Nagasawa, 1948. Bul. Takarazuka Insectarium 58, 18 pp. (In Japanese).—Smith and Peterson, 1950. Jour. Econ. Ent. 43: 581-585.—Smith, 1952. Univ. Calif. Pub. Ent. 9: 315-344.—Smith, 1953. Ohio Jour. Sci. 53 (3): 173-178.

#### Genus WESMAELIA Foerster, p. 102

*pendula* Foerster. Calif., Alaska. Host: *Nabis* sp.

Biology: Muesebeck, 1963. Ent. Soc. Wash. Proc. 65: 306.

#### Genus MYIOCEPHALUS Marshall, p. 102

*boops* (Wesmael). Maine, Mich., Minn., Tex., N. Mex., Calif. Distribution apparently includes all U. S.

#### Genus SYNTRETUS Foerster, pp. 102-103

Biology: Cole, 1959. Ent. Monthly Mag. 95: 18-21. First record of host association. Hosts are adults of Ichneumonidae.

#### Genus EUPHORIAELLA Ashmead, p. 103

*sommermanae* Muesebeck.

Biology: Sommerman, 1956. Ent. Soc. Wash. Proc. 58 (3): 149-152

## Genus EUPHORIANA Gahan, p. 103

**uniformis** Gahan. Iowa, Utah, Calif. Host: *Lygus elisus* Van Duzee.

## \*Genus LEIOPHRON Nees

(= *Euphorus* Nees, pp. 103-104)

**Leiophron** Nees, 1818. Nova Acta Acad. Leop. Carol. 9: 103. No species.

**Leiophron** Nees, Haliday, 1833. Ent. Mag. 1: 263. Three species.

Type: **Leiophron apicalis** (Curtis) Haliday. Desig. by Vier-  
eck, 1914.

Replaces **Euphorus** Nees, which falls as a syn. of **Leiophron** (*teste*  
Muesebeck, 1958. U.S. Natl. Mus. Proc. 107: 410-412).

**pallipes** (Curtis). Sask. Hosts: *Adelphocoris lineolatus* (Goeze), *Chlamy-  
datus* sp., *Lygus lineolaris* (Beauv.), *Plagiognathus medicagus*  
Arrand.

**tuberculatus** (Muesebeck). N. H.

## Subfamily COSMOPHORINAE

Placement of this group in the cyclostomine section of the Braconidae seems not to be tenable. The clypeus, while impressed, is not circularly emarginate as in cyclostomines, and in habits and larval structure the species resemble the Euphorinae. For the present the group is treated here as a distinct subfamily, but it is removed from the cyclostomine section of the family and placed after the Euphorinae. It may eventually need to be reincorporated in that subfamily.

Taxonomy: Hedqvist, 1955. Ent. Tidskr. 76: 92-98.—Watanabe, 1960.  
Insecta Matsumurana 23: 55.

Biology: Hedqvist, 1955, *loc. cit. supra*, p. 92.

## Genus COSMOPHORUS Ratzeburg, Sup. 1, p. 36

**pityophthori** Rohwer. Colo., Idaho, Wash. Host: *Pityophthorus nitidulus*  
(Mann.).

## Subfamily MACROCENTRINAE

## Genus MACROCENTRUS Curtis, pp. 104-107

Taxonomy: Eady and Clark, 1964. Ent. Gaz. 15: 97-127 (revision of the  
European spp.).

**aegeriae** Rohwer. Syn. of **marginator** (Nees).

**affinis** Muesebeck. Minn., Idaho.

**ancyliworis** Rohwer. Host: *Sparganothis sulfurana* (F.).

Biology: Allen, 1962. U. S. Dept. Agr. Tech. Bul. 1265, pp. 15-24.—Put-  
nam, 1963. Canad. Ent. 95: 1022-1023.

**atratus** Muesebeck. N. C., Fla., Iowa.

**cerasivoranae** Vereck. Hosts: *Archips argyrospilus* (Wlkr.), *A. infumatanus*  
(Zell.).

**clypeatus** Muesebeck. N. H.

**crambi** (Ashmead). N. Y., Md., La., Ark.

**cuniculus** Walley. Mont.

**delicatus** Cresson. Host: *Tetralopha scortealis* (Led.).

Biology: Allen, 1962. U. S. Dept. Agr. Tech. Bul. 1265, pp. 19, 24-25.

**exartemae** Walley. Host: *Exartema valdanum* McD.

**gifuensis** Ashmead. Delete; not known to occur in No. Amer. Records in  
Catalog apply to **grandii** Goidanich.

\***grandii** Goidanich. Europe, Japan; No. Amer. Replaces *gifuensis* Ashmead of Catalog (*teste* Eady and Clark, 1964. Ent. Gaz. 15: 121-122).

**Macrocentrus grandii** Goidanich, 1937. Ist. Ent. Univ. Bologna Bol. 9: 196. ♀.

Biology: Clausen, 1956. U. S. Dept. Agr. Tech. Bul. 1139, p. 113 (as *gifuensis* Ashmead).

**impressus** Muesebeck. Fla.

**incompletus** Muesebeck. N. Mex., Ariz.

**instabilis** Muesebeck.

Biology: Allen, 1962. U. S. Dept. Agr. Tech. Bul. 1265, p. 26.

**iridescens** French. Host: *Harpipteryx xylostella* (L.).

\***marginator** (Nees). All U. S. except southern tier of States; also N. S. to B. C. in Canada; Europe. Hosts: As given under *aegeriae* in Catalog and 1st Sup.; also, in Europe, *Aegeria culiciformis* Esp., *A. formicaeformis* Esp., *A. flaviventris* Staud., *A. speciformis* Schiff., *A. espiniformis* (L.), *Epinotia sordidana* Hübn., *E. caprana* (F.) and *Lathronympha strigana* (F.).

**Bracon marginator** Nees, 1812 (1811). Gesell. Naturf. Freunde Berlin Mag. 5: 14. ♀.

**Macrocentrus aegeriae** Rohwer. (Syn. by Eady and Clark, 1964. Ent. Gaz. 15: 113.)

**nigridorsis** Viereck. Utah, Oreg., Calif. Hosts: *Choristoneura conflictana* (Wlkr.), *Sciaphila duplex* Wlsm., *Sparganothis* sp.

**reticulatus** Muesebeck. N. C., Fla.

**texanus** Muesebeck. Kans., Ariz.; Mexico.

**utilis** Muesebeck. Fla.

### Subfamily HELCONINAE

Genus **HELCONIDEA** Viereck, p. 108

**ligator** (Say). Host: *Agilus anxius* Gory.

Genus **HELCON** Nees, p. 108

\***Edyia** Cameron, 1905. Ann. Mag. Nat. Hist. (7), 16: 159. (Syn. by Baltazar, 1961. Philippine Jour. Sci. 90 (3): 392.)

Type: *Edyia annulicornis* Cameron. By monotypy.

Genus **METEORIDEA** Ashmead, p. 109

\***Benama** Nixon, 1941. Bul. Ent. Res. 32: 98. (Syn. by Shenefelt and Muesebeck, 1957. Ent. Soc. Wash. Proc. 59: 130.)

Type: *Benama hutsoni* Nixon. By monotypy and orig. desig.

Taxonomy: Shenefelt and Muesebeck, 1957. Ent. Soc. Wash. Proc. 59: 129-134.

\***compressiventris** Shenefelt and Muesebeck. Wis. (Douglas Co.).

**Meteoridea compressiventris** Shenefelt and Muesebeck, 1957. Ent. Soc. Wash. Proc. 59: 131. ♀.

### Subfamily BLACINAE

#### Tribe BLACINI

Genus **BLACUS** Nees, p. 110

**Miocolus** Foerster, 1862. (Syn. by Muesebeck, 1964. Ent. Soc. Wash. Proc. 66: 88.)

In line with current literature *Ganychorus* Haliday and *Goniocormus* Foerster are kept as synonyms of *Blacus* Nees, but it seems likely that when a critical study of the group is made both will be recognized as distinct genera.

Biology: Arnaud, 1952. Ent. News 63: 149-150.

**\*Genus PYGOSTOLUS Haliday****Pygostolus** Haliday, 1833. Ent. Mag. 1: 263.Type: *Cryptus stricticus* Fabricius. By monotypy.Insert in Blacinae after *Syrhrizus* Foerster, p. 110.**\*falcatus** (Nees). Man. Host: *Sitona cylindricollis* Fahr.; in Europe, *Sitona lineatus* (L.), *S. humeralis* Steph., *S. hispidulus* (F.).**Leiophron falcatus** Nees, 1834. Hym. Ich. Aff. Monogr., v. 1, p. 44. ♀

Biology: Loan and Holdaway, 1961. Bul. Ent. Res. 62: 473-488.—Loan, 1961. Jour. Econ. Ent. 54: 1026-1031.—Loan, 1963. Ent. Soc. Amer. Ann. 56: 605-606.

**Genus ORGILUS Haliday, p. 111****dioryctriae** Rohwer. Host: *Dioryctria auranticella* (Grote).**gelechia** (Ashmead). N. S., P. E. I., Que., Ont. Hosts: *Lithocolletis* sp., *Gracilaria* sp. on *Cornus canadensis*.**obscurator** (Nees). Que., Ont., Mass., R. I., N. Y., N. J., W. Va., Mich. Hosts (in Europe): *Semasia hypericana* (Hbn.), *Exoteleia dodecella* (L.).

Biology: Watson and Arthur, 1959. Canad. Ent. 91: 481.—Miller, 1960. Jour. Econ. Ent. 53: 318.—Juillet, 1960. Canad. Ent. 92: 342-346.—Leius, 1960. Canad. Ent. 92: 371-375.—Juillet, 1960. Canad. Ent. 92: 701-704.—Dowden, 1962. U. S. Dept. Agr., Agr. Handb. 226, p. 62.

**Genus EUBADIZON Nees, pp. 111-112****\*definitum** Muesebeck. Oreg., Calif. Hosts: *Conophthorus ponderosae* Hopk., *Ernobius* sp.**Eubadizon definitum** Muesebeck, 1957. Brooklyn Ent. Soc. Bul. 52: 53. ♀, ♂.**\*electum** Muesebeck. Oreg., Calif.; B. C. Host: *Phymatodes* sp.**Eubadizon electum** Muesebeck, 1957. Brooklyn Ent. Soc. Bul. 52: 54. ♀, ♂.**\*ernobii** Muesebeck. Calif., Oreg. Host: *Ernobius* sp.**Eubadizon ernobii** Muesebeck, 1957. Brooklyn Ent. Soc. Bul. 52: 51. ♀, ♂.**\*extensor** (Linnaeus). Europe, U. S., South. Canada, Japan. Hosts: *Choristoneura muriana* (Hbn.), *Depressaria heracleana* (L.), *Epinotia nigricana* (H.-S.), *E. pusillana* Peyer., *Spilonota lariciana* Hein., *Zeiraphera griseana* (Hbn.), *Z. rufimatrana* (H.-S.).**Ichneumon extensor** Linnaeus, 1758. Syst. Nat., 10th Ed., p. 564.**Eubadizon pleurale** Cresson, 1872. N. syn. (based on comparison of type with material from Europe and Japan by C. F. W. Muesebeck).

Biology: Capek, 1956. Biologia 11: 602.—Allen, 1962. U. S. Dept. Agr. Tech. Bul. 1265, pp. 27-29.

**gracile** Provancher. N. H., Mass., Wis., Minn., Oreg. Hosts: *Acleris variana* (Fern.), *Eucordylea ducharme* Freem., *Evagora starki* (Freem.), *Recurvata apicitripunctella* (Clem.).

Biology: Schaffner, 1959. U. S. Dept. Agr. Misc. Pub. No. 767, p. 57.—Stark, 1961. Canad. Jour. Zool. 39: 895.

**\*salicicola** Muesebeck. Calif. Host: *Dorytomus* sp. on willow.**Eubadizon salicicola** Muesebeck, 1957. Brooklyn Ent. Soc. Bul. 52: 55. ♀, ♂.**Genus STANTONIA Ashmead, p. 112****carpocapsae** Muesebeck. Tex.**Genus MICROTYPUS Ratzeburg, p. 113****dioryctriae** Rohwer. Host: *Dioryctria auranticella* (Grote).



## Tribe TRIASPIDINI

Genus UROSIGALPHUS Ashmead, pp. 113-114

**barberi** Crawford. Conn., N. Y., Ala., Fla.**forbesi** Martin. Miss. Host: *Curculio* sp. on *Quercus falcata*.**robustus** Ashmead. Ark.

Genus ALIOLUS Say, Sup. 1, pp. 22-24

**collaris** (Brues). Ark. Host: *Conotrachelus nenuphar* (Hbst.).**crabilli** Martin. Ark.**curculionis** (Fitch). Ont. Host: *Listronotus oregonensis* (Lec.), *Tyloderma foveolatum* Say.

Biology: Armstrong, 1958. Canad. Ent. 90: 16-17.

**marginatus** Martin. Tenn., Mich.**rufus** (Riley). Ont. Hosts: *Conotrachelus nenuphar* (Hbst.), *Tyloderma foveolatum* Say.**trilobatus** (Say). Md., Va., Mich.

TRIASPIS subgenus TRIASPIS Haliday, Sup. 1, p. 24

**kurtogaster** Martin. Wis. Host: *Conotrachelus nenuphar* (Hbst.).**\*xanthochila** Martin. Ont. (Belleville).*Triaspis (T.) xanthochila* Martin, 1958. Canad. Ent. 90: 191. ♀.

## Subfamily AGATHIDINAE

Genus CREMNOPS Foerster, pp. 115-116

Revision: Marsh, 1961. Ent. Soc. Amer. Ann. 54: 851-861.

**ashmeadi** (Morrison). Md., Ind., Alta.**californicus** (Morrison). N. Mex., Ariz., Colo., Wyo., Utah, Nev., Oreg., Wash.**comstocki** (Morrison). Kans., Nebr., Idaho.**crassifemur** (Muesebeck). Calif.**haematodes** (Brullé). Fla., Ariz., Calif.**melanoptera** Ashmead. Idaho, Nev., Wash.**montrealensis** (Morrison). Sask., N. C., Ala., S. Dak., Kans., Tex.**nigrosternum** (Morrison). N. Y., N. J., Md., D. C., S. C., Mich, Ark., Kans., Colo., N. Mex., Utah, Ariz., Calif.**\*shenefelti** Marsh. Nev., Calif.*Cremnops shenefelti* Marsh, 1961. Ent. Soc. Amer. Ann. 54: 857. ♂, ♀.**virginiensis** (Morrison). Maine, Kans., Colo., Tex., Ariz., Wash.**washingtonensis** (Shenefelt). Nebr., Utah, Nev., Idaho, Oreg., Calif.

Genus EARINUS Wesmael, p. 116

**zeirapherae** Walley. Oreg. Hosts: *Zeiraphera griseana* (Hbn.), *Rhyacionia adana* Heinr.

Genus AGATHIRISIA Westwood, pp. 116-117

**cressoni** Muesebeck and Walkley. Colo.**testacea** Muesebeck. Calif.; Mexico.

Genus CRASSOMICRODUS Ashmead, p. 117

**apicipennis** Muesebeck. Mo., Iowa, Wyo., Calif.

**divisus** (Cresson). Fla., Ariz.

**fulvescens** (Cresson). Calif.; Mexico.

**medius** (Cresson). Tex., Ariz.

\***muesebecki** Marsh. Calif.

*Crassomicrodus muesebecki* Marsh, 1960. Pan-Pacific Ent. 36: 153. ♀, ♂.

**nigrithorax** Muesebeck. Calif.; Mexico.

**pallens** (Cresson). Fla.

Genus **AGATHIS** Latreille, pp. 117-121

**abdominalis** (Muesebeck). Mich., Ariz.

**acrobasidis** (Cushman). Va. Hosts: *Laspeyresia ingens* Heinr., *Rhyacionia frustrana* (Comst.), *Choristoneura fumiferana* (Clem.).

**agilis** (Cresson). Maine, Vt. Hosts: *Archips cerasivoranus* (Fitch), *Spilonota ocellana* (D. and S.).

**annulipes** (Cresson). Wyo., Utah, Idaho, Ariz., Calif. Hosts: *Paralobesia viteana* (Clem.), *Enarmonia interstinctana* (Clem.).

**atripes** Cresson. Ariz.

**bakeri** (Muesebeck). Mich., Minn.

**binominata** Muesebeck. Que. Hosts: *Petrova comstockiana* (Fern.), *Phalonia rutilana* (Hbn.), *Recurvaria coniferella* Kft.

**brevicornis** (Muesebeck). Idaho.

**buttricki** (Viereck). Fla.

**calcarata** (Cresson). Minn. Hosts: *Exartema permanganum* Clem., *E. sericoratum* Wlsm., *Sparganothis sulfurana* (F.).

**coleophorae** (Roh.). Idaho. Host: *Coleophora laricella* (Hbn.).

**difficilis** (Muesebeck). N. C., Ark.

**diversa** (Muesebeck). Mich.

Biology: Clausen, 1956. U. S. Dept. Agr. Tech. Bul. 1139, pp. 72-73.—  
Allen, 1962. U. S. Dept. Agr. Tech. Bul. 1265, pp. 30-31.

**festiva** Muesebeck.

Biology: Allen, 1962. U. S. Dept. Agr. Tech. Bul. 1265, pp. 31-34.

**gibbosa** (Say). Host: *Mompha eloisella* Clem.

**laticincta** (Cresson). Wis., Oreg. Hosts: *Acleris variana* (Fern.), *Archips cerasivoranus* (Fitch).

**nigripes** Cresson. N. Mex., Calif.

**pumila** (Ratzeburg). N. S., P. E. I., N. B., Mich., Wis.

Biology: Dowden, 1962. U. S. Dept. Agr., Agr. Handb. 226, p. 47.

**reticulata** (Muesebeck). Mo.

**rufofemorata** (Muesebeck). Nebr.

**simillima** (Cresson). Host: *Papaipema nebris* (Gn.).

**spiracularis** (Muesebeck). Fla., Calif. Hosts: *Cogia outis* (Skin.), *Erynnis gesta* H.-S., *E. zarucco* Luc., *Systasea pulverulenta* (Feld.).

**stigmatera** (Cresson). La.

Subfamily MICROGASTERINAE

Genus **DIRRHOPE** Foerster, p. 122

**americana** Muesebeck. Mich., Tex.

**\*Genus MUESEBECKIA** Mason

**Muesebeckia** Mason, 1957. Canad. Ent. 89: 355.

Type: **Muesebeckia eximius** Mason. By monotypy and orig. desig.

Insert in Microgasterinae following **Paroligoneurus** Muesebeck, p. 122.

**\*eximius** Mason. Ont., Que., N. C.

**Muesebeckia eximius** Mason, 1957. Canad. Ent. 98: 355. ♀, ♂.

**Genus APANTELES** Foerster, pp. 123-135

**alaskensis** (Ashmead). Calif.

**alticola** (Ashmead). N. H., Idaho, Calif.

**argynnidis** Riley. Tex. Host: *Erynnis funeralis* (Scud. and Burg.).

**autographae** Muesebeck. Que., Va. Hosts: *Autoplusia egena* (Gn.), *Pseudalletia unipuncta* (Haw.), *Rachiplusia ou* (Gn.).

**banksi** Viereck. N. Y., Mich.

**bedelliae** Viereck. Hawaii.

**bushnelli** Muesebeck. Fla. Hosts: *Dioryctria abietella* (D. and S.), *D. clarioralis* (Wlkr.).

**cacoeciae** Riley. Hosts: *Archips cerasivoranus* (Fitch), *Exartema valdanum* McD.

**californicus** Muesebeck. Host: *Eucosma bobana* Kearf.

Biology: Telford, 1961. Jour. Econ. Ent. 54: 347-355.—Stark, 1961. Canad. Jour. Zool. 39: 894.

**canarsiae** Ashmead. Ont. Hosts: *Acrobasis betulella* Hulst, *Argyrotaenia velutinana* (Wlkr.), *Dioryctria reniculella* (Grote).

**carpatus** (Say). Hosts: *Tinea despecta* Meyr., *Oecia maculata* Wlsm.

**\*Urogaster solitarius** Ashmead, 1901. Ent. Soc. London Trans., 1900, p. 287. ♀. Preocc. Syn. by Muesebeck, 1958. U. S. Natl. Mus. Proc. 107: 431.

**\*Apanteles piceiventris** Muesebeck, 1921. U. S. Natl. Mus. Proc. 58: 515. N. name for **solitarius** (Ashmead). Syn. by Muesebeck, 1958, loc. cit. supra, p. 431.

Biology: Key and Common, 1959. Austral. Jour. Zool. 7: 64.

**cinctiformis** Viereck. Ind., Wis.

**cingiliae** Muesebeck. Hosts: *Enypia venata* (Grote), *E. griseata* Grossb.

**clavatus** (Provancher). Wis., Ark. Host: *Etiella zinckenella* (Treit.).

**cockerelli** Muesebeck. Mich., Mo., Nebr., Calif.

**conanchetorum** Viereck. N. Y., D. C., W. Va., Mich., Wis., Ark. Host: *Loxostege mancalis* (Led.).

**congregatus** (Say).

Biology: Lawson, 1959. Ent. Soc. Amer. Ann. 52: 743-744.

**consimilis** Viereck. Pa., Ohio, Mich.

**cyaniridis** Riley. Ill. Hosts: *Philotes battatoides bernardino* B. and McD., *Incisalia henrici* (G. and R.).

**edwardsii** Riley. Minn., Iowa.

**electrae** Viereck. Tex. Host: *Automeris io* (F.).

**empretiae** Viereck. Mass. Host: *Lithacodes fasciola* (H.-S.).

Biology: Schaffner, 1959. U. S. Dept. Agr. Misc. Pub. 767, p. 60.

**ensiger** (Say). Ala., Colo.

**\*enypiae** Mason. B. C. Hosts: *Enypia griseata* Grossb., *E. venata* (Grote).

**Apanteles enypiae** Mason, 1959. Canad. Ent. 91: 47. ♀, ♂.

**epiblemae** Muesebeck. Fla., Calif.

**epinotiae** Viereck. Hosts: *Carpocapsa pomonella* (L.), *Keiferia lycopersicella* (Busck), *Platynota stultana* Wlsm., *Stegasta basqueella* (Chamb.), *Suleima helianthana* (Riley).

Biology: Satterthwaite, 1948. Jour. Econ. Ent. 41: 730.—Allen, 1962. U. S. Dept. Agr. Tech. Bul. 1265, pp. 34-35.

**etiellae** Viereck. Colo., Ariz., Calif.

**feltiae** Viereck. Mich., Utah, Ariz., Calif.

**flaviconchae** Riley. Utah, Wash.

Biology and taxonomy: Muesebeck, 1947. Pan-Pacific Ent. 23: 21-22.

**forbesi** Viereck. Ariz.

**fumiferanae** Viereck. Hosts: *Dioryctria reniculella* (Grote), *Thymelicus lineola* (Ochs.).

Biology: McGugan, 1955. Canad. Ent. 87: 178-187.—Miller, 1959. Canad. Ent. 91: 457-477.—McGugan and Blais, 1959. Canad. Ent. 91: 774.—Lewis, 1960. Canad. Ent. 92: 881-891.

**\*galleriae** Wilkinson. France, Argentina, Mauritius; N. C., S. C., Ga. Host: *Galleria mellonella* (L.).

*Apanteles galleriae* Wilkinson, 1932. Stylops 1: 139. ♀, ♂.

**gillettei** Baker. Ariz.

**glomeratus** (Linnaeus). New Zealand.

Distribution: Todd, 1962. New Zealand Jour. Sci. 5: 1-7.

Biology: Matsuzawa, 1955. Kagawa-Ken Agr. Co. Tech. Bul. 7, p. 60.—Clausen, 1956. U. S. Dept. Agr. Tech. Bul. 1139, p. 77.—Blunck and Wilbert, 1959. Internatl. Congr. Crop Prot. Proc. 4, v. 1, p. 1017.—Moiseeva, 1960. Leningrad. Vsesoiuzn. Inst. Rast. Trudy, 14: 51.

**griffini** Viereck. Okla., S. Dak.

**harrisinae** Muesebeck. Calif. Host: *Harrisina americana* (Guer.).

Biology: Schaffner, 1959. U. S. Dept. Agr. Misc. Pub. 767, p. 60.—Clausen, 1961. Hilgardia 31: 613-638.

**harti** Viereck. Mich.

**hesperidivorus** Viereck. Fla., Ariz. Host: *Hylephila phyleus* (Drury).

**hyphantriae** Riley. Europe.

Biology: Tadić, 1958 (1956). Tenth Intern. Congr. Ent. Proc. 4: 859-861.

**koebelei** Riley. Host: *Euphydryas chalcedona* (D. and H.).

**lacteicolor** Viereck.

Biology: Clausen, 1956. U. S. Dept. Agr. Tech. Bul. 1139, p. 78.—Dowden, 1962. U. S. Dept. Agr., Agr. Handb. 226, p. 48.

**\*laricellae** Mason N. B., Ont., Wis. Hosts: *Argyresthia laricella* Kft., *Coleophora laricella* (Hbn.).

*Apanteles laricellae* Mason, 1959. Canad. Ent. 91: 45. ♀, ♂.

**laspeyresiae** Viereck. Hosts: *Laspeyresia miscitata* Heinr., *Hedulia injectiva* Heinr.

**longicornis** (Provancher).

Biology: Wood and Neilson, 1960. Canad. Ent. 92: 760.

**marginiventris** (Cresson). Calif., Hawaii. Hosts: *Ethmia colonella* Wlsm., *Heliothis virescens* (F.), *Hymenia recurvalis* (F.), *Scotorythra caryopsis* Meyr., *Spodoptera exempta* (Wlkr.), *S. mauritia acronyctoides* (Gn.).

**medicaginis** Muesebeck.

Biology: Allen, 1958. Hilgardia 27: 515-541.—Allen and Smith, 1958. Hilgardia 28: 1-42.—Stern and Bowen, 1963. Ent. Soc. Amer. Ann. 56: 358-372.

- megathymi** Riley. N. C. Host: *Megathymus ursus* Poling.
- melanoscelus** (Ratzeburg).  
Biology: Clausen, 1956. U. S. Dept. Agr. Tech. Bul. 1139, p. 79.—Dowden, 1962. U. S. Dept. Agr., Agr. Handb. 226, p. 48.
- miantonomoi** Viereck. Mich.
- militaris** (Walsh). N. B., N. Mex., Ariz. Apparently distributed over all U. S. and south. Canada; also in Mexico and Hawaii. Hosts: *Chorizagrotis auxiliaris* (Grote), *Laphygma exigua* (Hbn.).
- neomexicanus** Muesebeck. Mich., Idaho.
- nephopteris** (Packard). N. Y., Ind., Iowa, Calif. Host: *Vitula edmandsii serratilineella* Rag.
- niger** Muesebeck. Va., Mich., Minn.
- nitens** Muesebeck. Colo., Wyo., Calif. Host: *Pseudaletia unipuncta* (Haw.).
- ornigis** Weed. Que. Hosts: *Bucculatrix ainshiella* Murtf., *Lithocolletis robinella* Clem., *Tischeria malifoliella* Clem.
- paleacritae** Riley. Hosts: *Enypia venata* (Grote), *E. packardata* Tayl.
- papaipemae** Muesebeck. Ohio. Host: *Arzama obliqua* Wlkr.
- paralechia** Muesebeck. N. H., Pa., Ohio, Tenn., Wis., Calif. Host: *Argyresthia* sp.  
Biology: Schaffner, 1959. U. S. Dept. Agr. Misc. Pub. 767, p. 61.
- paranthrenidis** Muesebeck. Pa., Fla., Miss.; Mexico. Host: *Paranthrene dolli* Neum., *Prionoxystus* sp. in red oak.
- petrovae** Walley. S. C., Wis., Minn., Calif. Hosts: *Barbara colfaxiana* Kearf., *Rhyacionia frustrana* (Comst.).
- plathypenae** Muesebeck. N. Y., Ind., Idaho, Wash. Hosts: *Anagrapha falcifer* (Kirby), *Autographa precationis* (Gn.), *Rachiplusia ou* (Gn.).
- plesius** Viereck. Wis.
- polychrosidis** Viereck. Fla., Kans., Wis., Minn. Hosts: *Gracilaria superbi-frontella* Clem., *Archips rosanus* (L.), *Argyrotaenia citrana* (Fern.).
- pseudoglossae** Muesebeck. Mich., Minn.
- pyralidis** Muesebeck. D. C., N. C., Ohio, Ark.
- \***salalicus** Mason. Oreg. Host: *Lithocolletis gaultheriella* Wlsm.  
*Apanteles salalicus* Mason, 1959. Canad. Ent. 91: 42. ♀.
- \***salicifoliellae** Mason. Ont. Host: *Lithocolletis salicifoliella* Chamb.  
*Apanteles salicifoliellae* Mason, 1959. Canad. Ent. 91: 43. ♀, ♂.
- schaffneri** Muesebeck. N. J., Tex. Hosts: *Euclea delphinii* Bdv., *Parasa* sp.  
Biology: Schaffner, 1959. U. S. Dept. Agr. Misc. Pub. 767, p. 62.
- scitulus** Riley. Ky., Ill.
- scutellaris** Muesebeck. Ariz.; Bulgaria.  
Taxonomy: Beardsley, 1961. Hawaii. Ent. Soc. Proc. 17: 341, 346.
- solitarius** (Ratzeburg).  
Biology: Clausen, 1956. U. S. Dept. Agr. Tech. Bul. 1139, pp. 79-80.—Dowden, 1962. U. S. Dept. Agr. Agr. Handb. 226, p. 49.
- \***starki** Mason. Alta, B. C., Utah, Idaho. Hosts: *Evagora starki* (Freem.), *Recurvaria milleri* Busck.  
*Apanteles starki* Mason, 1960. Canad. Ent. 92: 140. ♀, ♂.
- thecae** Riley. Colo. Host: *Plebejus icarioides* (Bdv.).  
Biology: Downey, 1962. Ent. Soc. Amer. Ann. 55: 367-373.
- tischeriae** Viereck. Wis., Mo. Hosts: *Parornix geminatella* (Pack.), *Argyrotaenia velutinana* (Wlkr.).

**yakutatensis** Ashmead. Idaho, Calif.

**\*zizaniae** Muesebeck. D. C., Del. Host: *Diatraea* sp. in wild rice.

*Apanteles zizaniae* Muesebeck, 1957. Ent. News 68: 22. ♀, ♂.

Genus **MICROGASTER** Latreille, pp. 135-137

**auripes** Provancher. Mich., Nebr., N. B. Hosts: *Farontia diffusa* (Wlkr.), *Pseudaletia unipuncta* (Haw.).

**brittoni** Viereck. Mich.

**calliptera** Say. Iowa, Nebr.

**canadensis** Muesebeck, N. S. Hosts: *Archips argyrospilus* (Wlkr.), *Stilpnobia salicis* (L.).

**comptanae** Viereck. Va., Iowa.

**congregatiformis** Viereck. Mich.

**ecdytolophae** Muesebeck. Nebr. Hosts: *Carpocapsa pomonella* (L.), *Walshia amorphella* Clem.

Biology: Brandhorst, 1962. Ent. Soc. Amer. Ann. 55: 477.—Allen, 1962. U. S. Dept. Agr. Tech. Bul. 1265, p. 36.

**epagoges** Gahan. Hosts: *Acleris chalybeana* (Fern.), *Anacamptis rhoifrutella* (Clem.), *Sparganothis acerivorana* MacKay.

Biology: Schaffner, 1959. U. S. Dept. Agr. Misc. Pub. 767, p. 62.

**facetosa** Weed. Host: *Argyrotaenia velutinana* (Wlkr.).

**gelechia** Riley. Host: *Gnorimoschema gallaeasterella* (Kell.).

Biology: Judd, 1962. Amer. Micros. Soc. Trans. 81: 204.

**harnedi** Muesebeck. Mich.

**iridescens** Cresson. Host: *Sylepta gordialis* (Gn.).

**leechi** Walley. Mass., Md., Mich., Oreg.

**pantographae** Muesebeck. Iowa.

**peronea** Walley. D. C., Wash. Hosts: *Archips argyrospilus* (Wlkr.), *Peronea logiana* (L.), *Sparganothis pettitana* (Rob.).

**phthorimaeae** Muesebeck. Hosts: *Udea rubigalis* (Gn.), *Platynota stultana* (Wlsm.).

**schizurae** Muesebeck. Mich., Ark.

**\*scotica** Marshall. Europe; Mich.

*Microgaster scotica* Marshall, 1885. Ent. Soc. London Trans. 1885, p. 251. ♂.

**\*tiro** Reinhard. Europe; Newfoundland, P. E. I. Host: *Cnephasia virgureana* Treit.

*Microgaster tiro* Reinhard, 1880. Deut. Ent. Ztschr. 24: 356, 357. ♀, ♂.

**zonaria** Say. Pa., Fla., Iowa, Wis.

Genus **MICROPLITIS** Foerster, pp. 137-139

**alaskensis** Ashmead. Ariz. Hosts: *Rachiplusia ou* (Gn.), *Trichoplusia ni* (Hbn.), *Pseudaletia unipuncta* (Haw.).

**autographae** Muesebeck. Ariz.

**crenulatus** (Provancher). Mich.

**croceipes** (Cresson). Ariz.

**feltiae** Muesebeck. Calif.

**gortynae** Riley. Pa.

**kewleyi** Muesebeck. Calif. Host: *Agrotis ipsilon* (Hufn.).

**longicauda** Muesebeck. Nev., Calif.

- montanus** Muesebeck. Nev.  
**perplexus** Muesebeck. Mich.  
**plutellae** Muesebeck. Ont., N. Dak.  
 Biology: Harcourt, 1960. Canad. Ent. 92: 420-421.  
**scutellatus** Muesebeck. Idaho.  
**stigmaticus** Muesebeck. Calif.  
**striatus** Muesebeck. Mich.  
**varicolor** Viereck. N. B. Host: *Syngrapha epigaea* (Grote).  
 Biology: Wood and Neilson, 1960. Canad. Ent. 92: 761.

## Subfamily CARDIOCHILINAE

Genus **CARDIOCHILES** Nees, pp. 139-141

- apicalis** (Cresson). D. C., S. C., Fla., Ariz.  
**insculptus** Mao. Fla.  
**levis** Mao. Calif.  
**magnus** Mao. Iowa.  
**minutus** (Cresson). Md.  
**pullus** Mao. Iowa, Calif.  
**rubicundus** Mao. Ariz.  
**rubidus** Mao. Idaho.  
**tibiator** (Say). Fla., Mo.  
**truncus** Mao. Wyo.  
**viator** (Say). N. Y., Mich., Wyo., N. Mex.

## Subfamily ICHNEUTINAE

Genus **ICHNEUTIDEA** Ashmead, pp. 141-142

- proteroptoides** Viereck. Miss.

## Subfamily CHELONINAE

Genus **PHANEROTOMA** Wesmael, pp. 142-143

- \***Sulydus** Du Buysson, 1897. Soc. Ent. de France Ann. 66: 354. Syn. by Fischer, 1963. Beitr. z. Ent. 13: 195.  
 Type: *Sulydus marshalli* Du Buysson. By monotypy.  
**erythrocephala** Rohwer. Ga., Wis., Mont., Calif. Hosts: *Laspeyresia piperana* (Kearf.), *Helulia injectiva* Heinr.  
**fasciata** Provancher. Hosts: *Laspeyresia ingens* Heinr., *L. anaranjada* Miller.  
 Biology: Allen, 1962. U. S. Dept. Agr. Tech. Bul. 1265, pp. 40-41.  
**laspeyresiae** Rohwer. Mich. Hosts: *Laspeyresia piperana* (Kearf.), *L. miscitata* Heinr., *Helulia injectiva* Heinr.  
**longicauda** Walley. N. Y., Va., Tenn., Wis., S. Dak., Tex.  
 \***planifrons** (Nees). Europe, North Africa, West and Central Asia, Siberia, Korea, Japan; Calif. Hosts: *Etiella zinckenella* (Treit.), *Grapholitha molesta* (Busck), *G. glycinivorella* Mats., *Laspeyresia strobilella* (L.), *Margaronia pyloalis* (Wlkr.), *Phycita diaphana* (Stgr.).  
**Sigalphus planifrons** Nees, 1816 (1813). Gesell. Naturf. Freunde Berlin Mag. 7: 259.

Taxonomy: Watanabe, 1940. *Insecta Matsumurana* 14: 88-89.

Biology: Parker, 1951. U. S. Dept. Agr. Tech. Bul. 1036, pp. 12-16.—  
Clausen, 1956. U. S. Dept. Agr. Tech. Bul. 1139, p. 121.

*recurvariae* Cush. Wis.

*thapsina* Walley. Ariz., Calif.

*tibialis* (Haldeman). Ont., Maine, Del., Ala., Ill., Mich., Wis., Minn. Host:  
*Acrobasis betulella* Hulst.

#### Genus ASCOGASTER Wesmael, p. 143

*flaviceps* Ashmead. N. Y.

*quadridentata* Wesmael. Wis., Colo., Calif. Hosts: *Laspeyresia nigricana*  
(Steph.), *Spilonota ocellana* (D. and S.).

Biology: Boyce, 1936. *Canad. Ent.* 68: 241-246.—Allen, 1962. U. S.  
Dept. Agr. Tech. Bul. 1265, pp. 37-40.

#### CHELONUS subgenus CHELONUS Panzer, pp. 143-144

*annulipes* Wesmael. Del., N. Y. Host: *Diatraea grandiosella* Dyar (in lab.).

Biology: Bradley and Arbuthnot, 1938. *Ent. Soc. Amer. Ann.* 31:  
259-269.—Harris, 1950. *Iowa Yearbook of Agr. for 1949*, pp.  
143-159.—Clausen, 1956. U. S. Dept. Agr. Tech. Bul. 1139, p. 91.

*aughei* (La Munyan). Delete "Locality not given." Nebr. (North Platte).

\**inanitus* (Linnaeus). Europe; Calif. Host: *Etiella zinckenella* (Treit.).

*Cynips inanitus* Linnaeus, 1767. *Syst. Nat.*, 12th Ed., p. 919.

Biology: Clausen, 1956. U. S. Dept. Agr. Tech. Bul. 1139, pp. 91-92.

\**muesebecki* McComb. Calif., Alaska, Ariz., Colo., Nev., N. Mex., Oreg.,  
S. D., Utah, Wash.

*Chelonus (Chelonus) muesebecki* McComb, 1962. *Ent. Soc. Wash. Proc.*  
64: 19. ♀, ♂.

*nebraskensis* (La Munyan). Delete "Locality not given." Nebr. (North  
Platte).

\**phaloniae* Mason. Man. Host: *Phalonia hospes* (Wlsm.).

*Chelonus phaloniae* Mason, 1959. *Canad. Ent.* 91: 49. ♀, ♂.

#### CHELONUS subgenus MICROCHELONUS Szepliget, pp. 145-146

*egregicolor* Viereck. N. H., Mass.

Biology: Schaffner, 1959. U. S. Dept. Agr. Misc. Pub. 767, p. 64.

*phthorimaeae* Gahan. Idaho; Mexico, Bermuda. Host: *Gnorimoschema gud-*  
*manella* (Wlsm.).

### Subfamily DACNUSINAE

Taxonomy: Nixon, 1943. *Ent. Monthly Mag.* 79: 23-34, 159-168; 1944.

*Idem* 80: 88-108, 140-151, 193-200, 249-255; 1945. *Idem* 81:  
189-204, 217-220; 1946. *Idem* 82: 279-300; 1948. *Idem* 84:  
207-224, 1949. *Idem* 85: 289-298; 1954. *Idem* 90: 257-290.—Rie-  
gel, 1947. *The American Species of Dacnusiinae*, Urbana, Illinois,  
8 pp.—Docavo, 1955. *Graellsia* 13: 1-34.—Griffiths, 1964. *Beitr. z.*  
*Ent.* 14: 823-914 (Dacnusiini).

Biology: Griffiths, 1956. *Ent. Monthly Mag.* 92: 25-30.—Griffiths, 1962.  
*Ent. Record and Jour. Variation* 74: 183-184.—Griffiths, 1964.  
*Beitr. z. Ent.* 14: 823-914.

#### Genus CHOREBUS Haliday, p. 146

*Liposcia* Foerster, 1862. *Transf. from syn. here to syn. under Pachysema*  
Foerster.

*aquaticus* Muesebeck. Minn.



**\*Genus PACHYSEMA Foerster**

**Pachysema** Foerster, 1862. Naturh. Ver. Rheinlande Verh. 19: 274.

Type: **Dacnusa macropila** Haliday. By monotypy and orig. desig.

**Liposcia** Foerster, 1862. Transf. from syn. under **Chorebus** Haliday, p. 146.

Place in Dacnusiinae after **Chorebus** Haliday.

As yet no North Amer. species have been recorded.

Taxonomy: Nixon, 1964. Ent. Monthly Mag. 90: 257-274.

**Subfamily ALYSIINAE**

Taxonomy and Biology: Griffiths, 1962. Ent. Rec. and Jour. Variation 74: 184.—Griffiths, 1964. Beitr. z. Ent. 14: 823-914.

**Genus APHAERETA Foerster, p. 148**

Taxonomy: McComb, 1960. Ent. News 71: 175-178.

**auripes** (Provancher). Syn. of **pallipes** (Say).

**delosa** Viereck. Syn. of **pallipes** (Say).

\***excavata** McComb. Ga. (Somerville). Host: *Sarcophaga* sp.

**Aphaereta excavata** McComb, 1960. Ent. News 71: 176. ♀, ♂.

\***masoni** McComb. Ont. (Stratford). Host: *Cordilura* sp.

**Aphaereta masoni** McComb, 1960. Ent. News 71: 177. ♀, ♂.

**pallipes** (Say). Ont.; Hawaii. Hosts: *Musca autumnalis* DeG., *M. domestica* L.

**Trichesia auripes** Provancher (syn. by McComb, 1958. Ent. Soc. Wash. Proc. 60: 223).

**Aphaereta delosa** Viereck (syn. by McComb, 1958, loc. cit. supra, p. 223).

**Aphaereta subtricarinata** Viereck (syn. by McComb, 1958, loc. cit. supra, p. 223).

**Aphaereta pegomyiae** Brues (syn. by McComb, 1958, loc. cit. supra, p. 223).

**Aphaereta sarcophagae** Gahan (syn. by McComb, 1958, loc. cit. supra, p. 223).

Taxonomy: McComb, 1958. Ent. Soc. Wash. Proc. 60: 223-224.—McComb, 1960. Ent. News 71: 175-178.

Biology: Salkeld, 1959. Canad. Ent. 91: 93-97.

**pegomyiae** Brues. Syn. of **pallipes** (Say).

**sarcophagae** Gahan. Syn. of **pallipes** (Say).

**subtricarinata** Viereck. Syn. of **pallipes** (Say).

**Genus IDIASTA Foerster, p. 150**

Taxonomy: Königsmann, 1960. Beitr. z. Ent. 10: 624-654.

**Genus MESOCRINA Foerster, p. 150**

Taxonomy: Königsmann, 1959. Beitr. z. Ent. 9: 609-619.

**Genus PHAENOCARPA Foerster, p. 152**

**picinervis** (Haliday). Md. Kans., Idaho.

**Subfamily OPIINAE**

Taxonomy: Fischer, 1959. Acta Ent. Mus. Natl. Pragae 33: 241-263.—Fischer, 1963. Beitr. z. Ent. 13: 194-222, 662-747.—Fischer, 1964. Polskie Pismo Ent. 34: 197-530.

**Genus ADEMON Haliday, p. 152**

\***Giardinia** Destefani Perez, 1902. Zool. Jahrb. Syst. 15: 631. N. syn. (teste C. F. W. Muesebeck, from literature).

Type: *Giardinaia urinator* Destefani Perez. By monotypy.

Biology: Destefani Perez, *loc. cit. supra*, pp. 625-634.—Rimsky-Korsakov, 1933. Handb. biol. Arbeitsmethoden, Abt. 9, Teil 7, p. 255.

**niger** (Ashmead). Wis., Minn.

Genus GNAPTODON Haliday, p. 153

**nepticulae** (Rohwer). N. Y., Md.

Genus OPIUS Wesmael, pp. 153-157

\***Tolbia** Cameron, 1907. Linn. Soc. London Trans. (2) 12: 84. Syn. by Baltazar, 1961. Philippine Jour. Sci. 90(3): 392.

Type: *Tolbia scaevolae* Cameron. By monotypy.

\***Hexaulax** Cameron, 1910. Soc. Ent. 25: 25. Syn. by Fischer, 1964. Polskie Pismo Ent. 34: 209.

Type: *Hexaulax ruficeps* Cameron. By monotypy.

\***Eristernaulax** Viereck, 1913. U. S. Natl. Mus. Proc. 46: 362. Syn. by Fischer, 1963. Polskie Pismo Ent. 33: 272.

Type: *Eristernaulax leucotaenia* Viereck. By monotypy and orig. desig.

Taxonomy. Fischer, 1957. Deut. Ent. Ztschr., N. F. 4: 332-358.—Fischer, 1958. Mus. Civ. Stor. Nat. Genova Ann. 70: 33-70, 245-304.—Fischer, 1958. Hist. Nat. Mus. Nat. Hungarici 50: 241-260.—Fischer, 1958. Naturh. Mus. Wien. Ann. 62: 210-219.—Fischer, 1958. Acta Ent. Mus. Natl. Pragae 32: 295-316.—Fischer, 1958. Beitr. z. Ent. 8: 189-212.—Fischer, 1959. Münchner Ent. Gesell. Mitt. 49: 1-35.—Fischer, 1959. Mus. Civ. Stor. Nat. Genova Ann. 71: 145-161.—Fischer, 1959. Opuscula Ent. 24: 55-78.—Fischer, 1959. Polskie Pismo Ent. 29: 519-542.—Fischer, 1959. Hist. Nat. Mus. Nat. Hungarici 51: 419-423.—Fischer, 1960. Ann. Zool. 19: 33-112.—Fischer, 1962. Naturh. Mus. Wien Ann. 65: 117-131.—Fischer, 1963. Acta Ent. Mus. Natl. Pragae 35: 197-242.—Fischer, 1963. Polskie Pismo Ent. 33: 253-409.

**aberrans** Viereck. Ont., S. C., Wis.

Taxonomy: Fischer, 1964. Polskie Pismo Ent. 34: 464-466.

\***aciurae** Fischer. Fla. Host: *Myoleja limata* (Coq.).

*Opius aciurae* Fisher, 1964. Polskie Pismo Ent. 34: 272. ♀, ♂.

\***adductus** Fischer. Calif. Host: *Agromyza* sp.

*Opius adductus* Fischer, 1964. Polskie Pismo Ent. 34: 413. ♀, ♂.

\***alachuanus** Fischer. Fla. (Gainesville).

*Opius alachuanus* Fischer, 1964. Polskie Pismo Ent. 34: 379. ♀.

\***alconanus** Fischer. Mich. (Alcona Co.).

*Opius alconanus* Fischer, 1964. Polskie Pismo Ent. 34: 416. ♀.

**alloeus** Muesebeck. Pa., Mich., Wis.

\***amensis** Fischer. N. Y., Kans., Iowa.

*Opius amensis* Fischer, 1964. Polskie Pismo Ent. 34: 309. ♀, ♂.

**amplus** (Ashmead). Newfoundland, Que., Alta., B. C. Host: *Agromyza albirtarsis* Meig.

Taxonomy: Fischer, 1964. Polskie Pismo Ent. 34: 351-352.

\***angustistriatus** Fischer. S. C., N. Y.

*Opius angustistriatus* Fischer, 1964. Polskie Pismo Ent. 34: 353. ♀.

\***apertus** Fischer. Mich. (Midland Co.).

*Opius apertus* Fischer, 1964. Polskie Pismo Ent. 34: 417. ♂.

**apicalis** Gahan. N. Y., Md., Conn., Wis., Kans., Calif. Host: *Liriomyza* sp.

Taxonomy: Fischer, 1964. Polskie Pismo Ent. 34: 372-373.

\***aquaticus** Muesebeck, n. name. Replaces *hydrelliae* Muesebeck, preocc.

- \***aureliae** Fischer. Europe; Colo., Wash.  
*Opius aureliae* Fischer, 1957. Deut. Ent. Ztschr., N. F., 4: 343. ♀.  
 Taxonomy and distribution: Fischer, 1964. Polskie Pismo Ent. 34: 355-356.
- baldufi** Muesebeck. Mich., Host: Replace *Rhagoletis alternata* (Fall.) with *R. basiola* (O. S.).  
 Biology: Balduf, 1959. Ill. Biol. Monogr. 26: 32-40.  
 Taxonomy: Fischer, 1964. Polskie Pismo Ent. 34: 357-358.
- \***basicastaneus** Fischer. S. C. (Pickens Co.).  
*Opius basicastaneus* Fischer, 1964. Polskie Pismo Ent. 34: 501. ♂.
- \***berberidis** Fischer. Wash., N. Y. Hosts: *Rhagoletis berberis* Curran, *R. tabellaria* (Fitch).  
*Opius berberidis* Fischer, 1964. Polskie Pismo Ent. 34: 358. ♀, ♂.
- \***bidentis** Fischer. Fla. (Lake Placid).  
*Opius bidentis* Fischer, 1964. Polskie Pismo Ent. 34: 360. ♀, ♂.
- \***blantoni** Fischer. Alaska, Wash., Oreg.  
*Opius blantoni* Fischer, 1964. Polskie Pismo Ent. 34: 338. ♀.
- brunneiventris** Cresson.  
 Taxonomy: Fischer, 1964. Polskie Pismo Ent. 34: 274-276.
- \***brunnescens** Fischer. N. Y.  
*Opius brunnescens* Fischer, 1964. Polskie Pismo Ent. 34: 340. ♀, ♂.
- canaliculatus** Gahan. Ill., Minn., Man.  
 Taxonomy: Fischer, 1964. Polskie Pismo Ent. 34: 277-279.
- \***carinus** Fischer. N. C. (Pink Beds).  
*Opius carinus* Fischer, 1964. Polskie Pismo Ent. 34: 253. ♂.
- \***castaneigaster** Fischer. N. Y., N. C., S. C., Ohio, Tenn., Wis.  
*Opius castaneigaster* Fischer, 1964. Polskie Pismo Ent. 34: 419. ♀, ♂.
- \***chapmani** Fischer. Mass. (So. Hadley).  
*Opius chapmani* Fischer, 1964. Polskie Pismo Ent. 34: 311. ♂.
- cincticornis** Gahan. N. Y., N. J., N. C., Mich., Newfoundland, Que., Sask.  
 Taxonomy: Fischer, 1964. Polskie Pismo Ent. 34: 226-228.
- cinctus** Provancher. Mich., Utah, N. S., Ont., Yukon.  
 Taxonomy: Fischer, 1964. Polskie Pismo Ent. 34: 255-258.
- \***cinereifactus** Fischer. N. Y.  
*Opius cinereifactus* Fischer, 1964. Polskie Pismo Ent. 34: 503. ♀, ♂.
- \***clellanvillensis** Fischer. S. C. (McClellanville).  
*Opius clellanvillensis* Fischer, 1964. Polskie Pismo Ent. 34: 454. ♀.
- \***clevelandensis** Fischer. N. Y., S. C.  
*Opius clevelandensis* Fischer, 1964. Polskie Pismo Ent. 34: 421. ♀, ♂.
- \***coleogaster** Fischer. Fla.  
*Opius coleogaster* Fischer, 1964. Polskie Pismo Ent. 34: 399. ♀, ♂.
- \***columbiacus** Fischer. N. Y., N. C., S. C., Ariz.  
*Opius columbiacus* Fischer, 1964. Polskie Pismo Ent. 34: 466. ♀, ♂.
- \***comatus** Wesmael. Europe; N. Y., Md., S. C.  
*Opius comatus* Wesmael, 1835. Nouv. Mém. Acad. Sci. Bruxelles 9: 145.  
 ♀, ♂.  
 Taxonomy: Fischer, 1964. Polskie Pismo Ent. 34: 229-230.
- \***confundens** Fischer. Tex., La., Fla., S. C.  
*Opius confundens* Fischer, 1964. Polskie Pismo Ent. 34: 381. ♀, ♂.
- \***convergtalis** Fischer. N. C. (Pink Beds).  
*Opius convergtalis* Fischer, 1964. Polskie Pismo Ent. 34: 468. ♀.
- coriaceus** Gahan. D. C., Del., N. C., S. C., Ga.  
 Taxonomy: Fischer, 1964. Polskie Pismo Ent. 34: 383-385.

- \***crabtreeanus** Fischer. N. C., N. Y.  
*Opius crabtreeanus* Fischer, 1964. Polskie Pismo Ent. 34: 470. ♀.
- \***crandalli** Fischer. Ariz. (Mt. Lemon).  
*Opius crandalli* Fischer, 1964. Polskie Pismo Ent. 34: 312. ♀.
- \***curtiarticulatus** Fischer. Sask., Mass., N. Y.  
*Opius curtiarticulatus* Fischer, 1964. Polskie Pismo Ent. 34: 315. ♀.
- \***dimensus** Fischer. N. Y. (Ithaca).  
*Opius dimensus* Fischer, 1964. Polskie Pismo Ent. 34: 362. ♀.
- dimidiatus** (Ashmead). Host: *Liriomyza munda* Frick.  
 Taxonomy: Fischer, 1964. Polskie Pismo Ent. 34: 448-450.
- downesi** Gahan. Mich.  
 Taxonomy: Fischer, 1964. Polskie Pismo Ent. 34: 364-365.
- \***dreisbachi** Fischer. Mich., N. Y.  
*Opius dreisbachi* Fischer, 1964. Polskie Pismo Ent. 34: 385. ♀, ♂.
- \***euwattacooanus** Fischer. Md., S. C., Mich.  
*Opius euwattacooanus* Fischer, 1964. Polskie Pismo Ent. 34: 505. ♀, ♂.
- \***extiratus** Fischer. Mass., N. Y., Md.  
*Opius extiratus* Fischer, 1964. Polskie Pismo Ent. 34: 473. ♂.
- \***farmingdalensis** Fischer. N. Y. (Farmingdale).  
*Opius farmingdalensis* Fischer, 1964. Polskie Pismo Ent. 34: 507. ♀.
- \***farmingdalicus** Fischer. N. Y. (Farmingdale).  
*Opius farmingdalicus* Fischer, 1964. Polskie Pismo Ent. 34: 475. ♂.
- ferrugineus** Gahan. N. J.
- flaviceps** Gahan. Que., R. I., N. Y., N. J., N. C.  
 Taxonomy: Fischer, 1964. Polskie Pismo Ent. 34: 423-425.
- foersteri** Gahan. Md., Va., Colo.  
 Taxonomy: Fischer, 1964. Polskie Pismo Ent. 34: 365-367.
- \***foutsii** Fischer. Md. (Cabin John).  
*Opius foutsii* Fischer, 1964. Polskie Pismo Ent. 34: 401. ♀.
- \***frequens** Fischer. Me., N. Y., Mich., Minn., Oreg., Wash., Que., Ont. Man.  
 Host: *Rhagoletis fausta* (O. S.).  
*Opius frequens* Fischer, 1964. Polskie Pismo Ent. 34: 279. ♀, ♂.
- fulvicollis** Thomson.  
 Taxonomy: Fischer, 1964. Polskie Pismo Ent. 34: 237-239.
- gahani** Muesebeck. Pa., Wis., Minn.  
 Taxonomy: Fischer, 1964. Polskie Pismo Ent. 34: 281-283.
- \***gahanoides** Fischer. Ill., Mich.  
*Opius gahanoides* Fischer, 1964. Polskie Pismo Ent. 34: 283. ♀.
- \***gainesvillensis** Fischer. Fla., N. C., Md.  
*Opius gainesvillensis* Fischer, 1964. Polskie Pismo Ent. 34: 402. ♀, ♂.
- \***glasgowi** Fischer. N. Y., S. Dak. Host: *Rhagoletis cingulata* (Loew).  
*Opius glasgowi* Fischer, 1964. Polskie Pismo Ent. 34: 286. ♂.
- \***globiformis** Fischer. Md., N. Y., Mich., Wis., Ont.  
*Opius globiformis* Fischer, 1964. Polskie Pismo Ent. 34: 497. ♀, ♂.
- \***globigaster** Fischer. N. Y., Pa., Va., N. C.  
*Opius globigaster* Fischer, 1964. Polskie Pismo Ent. 34: 387. ♀, ♂.
- gracillariae** Gahan.  
 Taxonomy: Fischer, 1964. Polskie Pismo Ent. 34: 425-426.
- \***grafi** Fischer. Md., Va., N. C., S. C.  
*Opius grafi* Fischer, 1964. Polskie Pismo Ent. 34: 389. ♀, ♂.
- \***gravicornis** Fischer. Que. (Wakefield).  
*Opius gravicornis* Fischer, 1964. Polskie Pismo Ent. 34: 230. ♂.

- \***hancockanus** Fischer. N. Y. (Hancock).  
*Opius hancockanus* Fischer, 1964. Polskie Pismo Ent. 34: 426. ♀.
- \***hardmanni** Fischer. Calif., Oreg., Wash.  
*Opius hardmanni* Fischer, 1964. Polskie Pismo Ent. 34: 211. ♀, ♂.
- \***hartleyi** Fischer. Alaska.  
*Opius hartleyi* Fischer, 1964. Polskie Pismo Ent. 34: 258. ♀.
- \***hoffmanni** Fischer. Mich., Ga.  
*Opius hoffmanni* Fischer, 1964. Polskie Pismo Ent. 34: 391. ♀, ♂.
- \***hollisterensis** Fischer. Idaho (Hollister).  
*Opius hollisterensis* Fischer, 1964. Polskie Pismo Ent. 34: 328. ♂.
- hydrelliae** Muesebeck. Preocc. Replaced by **aquaticus** Muesebeck.  
Taxonomy: Fischer, 1964. Polskie Pismo Ent. 34: 393-395.
- \***igneus** Fischer. Fla., S. C.; Cuba.  
*Opius igneus* Fischer, 1964. Polskie Pismo Ent. 34: 477. ♀, ♂.
- \***ignifer** Fischer. N. Y. (Oneonta).  
*Opius ignifer* Fischer, 1964. Polskie Pismo Ent. 34: 232. ♀.
- \***intermissus** Fischer. S. C.  
*Opius intermissus* Fischer, 1964. Polskie Pismo Ent. 34: 428. ♀, ♂.
- \***irregularis** Wesmael. Europe; Wash., Oreg., N. C., N. Y.  
*Opius irregularis* Wesmael, 1835. Nouv. Mém. Acad. Sci. Bruxelles 9: 132. ♀, ♂.  
Taxonomy: Fischer, 1964. Polskie Pismo Ent. 34: 336-338.
- \***isolatae** Fischer. Calif., Wash. Host: *Agromyza isolata* Mall.  
*Opius isolatae* Fischer, 1964. Polskie Pismo Ent. 34: 478. ♂, ♀.
- \***ithacensis** Fischer. N. Y. (Ithaca).  
*Opius ithacensis* Fischer, 1964. Polskie Pismo Ent. 34: 239. ♀.
- \***jacobi** Fischer. B. C., Que., Alaska, Wash., Oreg., Calif.  
*Opius jacobi* Fischer, 1964. Polskie Pismo Ent. 34: 329. ♀, ♂.
- \***juglandis** Muesebeck. Ariz. Host: *Rhagoletis juglandis* (Cress.).  
*Opius juglandis* Muesebeck, 1961. Brooklyn Ent. Soc. Bul. 56: 57. ♀, ♂.
- \***juniperi** Fischer. Ariz., Man.  
*Opius juniperi* Fischer, 1964. Polskie Pismo Ent. 34: 288. ♀, ♂.
- \***karesuandensis** Fischer. Sweden; Alaska, Yukon.  
*Opius karesuandensis* Fischer, 1964. Polskie Pismo Ent. 34: 241. ♂, ♀.
- \***kinleyensis** Fischer. Alaska (Mt. McKinley).  
*Opius kinleyensis* Fischer, 1964. Polskie Pismo Ent. 34: 317. ♂, ♀.
- \***krombeini** Fischer. Va. (Arlington).  
*Opius krombeini* Fischer, 1964. Polskie Pismo Ent. 34: 367. ♀.
- kukakensis** (Ashmead). Oreg.
- \***latitemporalis** Fischer. N. Y. (Ithaca).  
*Opius latitemporalis* Fischer, 1964. Polskie Pismo Ent. 34: 509. ♂.
- lectoides** Gahan. N. S., Ont.  
Taxonomy: Fischer, 1964. Polskie Pismo Ent. 34: 289-291.
- lectus** Gahan. N. B., Ont. Mich., Calif. Host: *Rhagoletis fausta* (O. S.).  
Taxonomy: Fischer, 1964. Polskie Pismo Ent. 34: 291-293.
- \***leevingensis** Fischer. Calif. (Leevining).  
*Opius leevingensis* Fischer, 1964. Polskie Pismo Ent. 34: 369. ♂.
- lemnaphilae** Muesebeck.  
Biology: Scotland, 1939. Ent. Soc. Amer. Ann. 32: 716-717.—Scotland, 1940. N. Y. Ent. Soc. Jour. 48: 323-325.  
Taxonomy: Fischer, 1964. Polskie Pismo Ent. 34: 430-431.

- \***lemonensis** Fischer. Ariz.; Mexico.  
*Opius lemonensis* Fischer, 1964. Polskie Pismo Ent. 34: 319. ♀, ♂.
- \***liriomyzae** Fischer. Calif. (Santa Cruz). Host: *Liriomyza subpusilla* (Frost).  
*Opius liriomyzae* Fischer, 1964. Polskie Pismo Ent. 34: 260. ♂.
- \***macrocerus** Thomson. Europe; Mich.  
*Opius macrocerus* Thomson, 1895. Opusc. Ent. fasc. 20, p. 2186. ♀, ♂.  
 \**Opius hians* Stelfox, 1949. Ent. Monthly Mag. 85: 306. ♀, ♂.  
 Taxonomy and distribution: Fischer, 1964. Polskie Pismo Ent. 34: 321-323.
- \***malivorellae** Fischer. Iowa, S. Dak., W. Va., Mass. Host: *Coleophora malivorella* Riley.  
*Opius malivorellae* Fischer, 1964. Polskie Pismo Ent. 34: 213. ♀, ♂.
- mandibularis** Gahan. R. I., Md., Ga., Ariz. Host: *Phytobia maculosa* (Mall.).  
 Taxonomy: Fischer, 1964. Polskie Pismo Ent. 34: 215-217.
- \***masoni** Fischer. Ont., Md., N. Y., S. C.  
*Opius masoni* Fischer, 1964. Polskie Pismo Ent. 34: 480. ♀, ♂.
- melleus** Gahan. N. J., Ohio. Host: *Rhagoletis suavis* (Loew).
- \***middlekauffi** Fischer. Calif. (Berkeley). Host: *Pegomya hyoscyami* (Panz.).  
*Opius middlekauffi* Fischer, 1964. Polskie Pismo Ent. 34: 244. ♀, ♂.
- montanus** (Ashmead).  
 Taxonomy: Fischer, 1964. Polskie Pismo Ent. 34: 511-513.
- \***myakkensis** Fischer. Fla. (Myakka State Park).  
*Opius myakkensis* Fischer, 1964. Polskie Pismo Ent. 34: 404. ♂.
- \***nigritellae** Fischer. Calif. (Berkeley). Host: Near *Phytomyza nigritella* (Zett.).  
*Opius nigritellae* Fischer, 1964. Polskie Pismo Ent. 34: 342. ♀.
- \***nitidulator** (Nees). Europe; Calif., Wyo., Colo., Ont., Alta., Sask., B. C.  
 Host: *Pegomya hyoscyami* (Panz.).  
*Bracon nitidulator* Nees, 1834. Hym. Ichn. Aff. Monog. v. 1, p. 56. ♂.  
 \**Opius vittatus* Ruschka, 1915. Ztschr. f. Angew. Ent. 2: 395. ♀, ♂.  
 Taxonomy: Fischer, 1964. Polskie Pismo Ent. 34: 246-248.
- \***northcarolinensis** Fischer. N. Y., Md., N. C., S. C., Mich.  
*Opius northcarolinensis* Fischer, 1964. Polskie Pismo Ent. 34: 513. ♀, ♂.
- \***notaulicus** Fischer. Que., Mass., R. I.  
*Opius notaulicus* Fischer, 1964. Polskie Pismo Ent. 34: 217. ♀, ♂.
- \***nudiscutum** Fischer. Calif., Tenn., Sask. Hosts: *Liriomyza subpusilla* (Frost), *Agromyza* sp.  
*Opius nudiscutum* Fischer, 1964. Polskie Pismo Ent. 34: 373. ♀, ♂.
- \***ordinarius** Fischer. Calif., Oreg., Wash. Hosts: *Agromyza* sp., *Liriomyza* sp.  
*Opius ordinarius* Fischer, 1964. Polskie Pismo Ent. 34: 450. ♀, ♂.
- \***ornatigaster** Fischer. Calif. (Laurel). Host: *Agromyza* sp.  
*Opius ornatigaster* Fischer, 1964. Polskie Pismo Ent. 34: 515. ♀.
- \***ornatus** Fischer. N. Y., N. J., Md., Va., N. C., S. C.  
*Opius ornatus* Fischer, 1964. Polskie Pismo Ent. 34: 262. ♀, ♂.
- oscinidis** (Ashmead). Md., Va., Mich.  
 Taxonomy: Fischer, 1964. Polskie Pismo Ent. 34: 234-236.
- otiosus** Gahan.  
 Taxonomy: Fischer, 1964. Polskie Pismo Ent. 34: 499-500.
- \***pallidipalpis** Fischer. N. C., S. C.  
*Opius pallidipalpis* Fischer, 1964. Polskie Pismo Ent. 34: 482. ♀, ♂.

- \***paradisiacus** Fischer. Fla. (Paradise Key).  
*Opius paradisiacus* Fischer, 1964. Polskie Pismo Ent. 34: 456. ♀.
- \***paralleliformis** Fischer. N. Y. (Ithaca).  
*Opius paralleliformis* Fischer, 1964. Polskie Pismo Ent. 34: 452. ♂.
- \***paratakomanus** Fischer. Md. (Takoma Park).  
*Opius paratakomanus* Fischer, 1964. Polskie Pismo Ent. 34: 484. ♀.
- \***parawattacooanus** Fischer. S. C. (Wattacoo).  
*Opius parawattacooanus* Fischer, 1964. Polskie Pismo Ent. 34: 517. ♀.
- \***parkeranus** Fischer. Ariz. (Parker Creek).  
*Opius parkeranus* Fischer, 1964. Polskie Pismo Ent. 34: 458. ♀.
- \***parker creekensis** Fischer. Ariz., Calif., S. C.  
*Opius parker creekensis* Fischer, 1964. Polskie Pismo Ent. 34: 486. ♀.
- \***parvifossa** Fischer. N. Y., Mich., Tenn., Wis., Kans., N. B., Que., Ont.  
*Opius parvifossa* Fischer, 1964. Polskie Pismo Ent. 34: 294. ♂, ♀.
- \***pauper** Fischer. Wash., Oreg., Calif.  
*Opius pauper* Fischer, 1964. Polskie Pismo Ent. 34: 519. ♀, ♂.
- pegomyiae** Gahan. Syn. of **spinaeiae** Thomson.
- \***perminutus** Fischer. Calif. (Santa Cruz).  
*Opius perminutus* Fischer, 1964. Polskie Pismo Ent. 34: 332. ♀, ♂.
- \***perpygmaeus** Fischer. Md., S. C.  
*Opius perpygmaeus* Fischer, 1964. Polskie Pismo Ent. 34: 521. ♀, ♂.
- \***pilosinotum** Fischer. N. Y. (Ithaca).  
*Opius pilosinotum* Fischer, 1964. Polskie Pismo Ent. 34: 522. ♀.
- \***pilosus** Fischer. Calif. (Yosemite).  
*Opius pilosus* Fischer, 1964. Polskie Pismo Ent. 34: 333. ♀.
- \***pinkbedsanus** Fischer. N. C., N. Y.  
*Opius pinkbedsanus* Fischer, 1964. Polskie Pismo Ent. 34: 488. ♀, ♂.
- \***pisgahensis** Fischer. N. Y., N. C.  
*Opius pisgahensis* Fischer, 1964. Polskie Pismo Ent. 34: 323. ♂.
- \***polyzonius** Wesmael. Europe; N. Y., Md., Wis., Ont., Sask., B. C. Hosts:  
*Agromyza beatica* Grif., *A. hendeli* Grif., *A. phragmitidis* Hend.  
*Opius polyzonius* Wesmael, 1835. Nouv. Mém. Acad. Sci. Bruxelles 9:  
136. ♀, ♂.  
Taxonomy: Fischer, 1964. Polskie Pismo Ent. 34: 248-250.
- \***porteri** Fischer. Fla. (Dade Co.).  
*Opius porteri* Fischer, 1964. Polskie Pismo Ent. 34: 431. ♀.
- \***prolongatus** Fischer. S. C. (Greenville).  
*Opius prolongatus* Fischer, 1964. Polskie Pismo Ent. 34: 459. ♀.
- provancheri** Dalla Torre. Pa., Kans., Iowa, Colo.  
Taxonomy: Fischer, 1964. Polskie Pismo Ent. 34: 296-298.
- \***pseudocolumbiacus** Fischer. N. C. (Mt. Pisgah).  
*Opius pseudocolumbiacus* Fischer, 1964. Polskie Pismo Ent. 34: 489. ♂.
- \***punctipes** Fischer. Fla. (Gainesville).  
*Opius punctipes* Fischer, 1964. Polskie Pismo Ent. 34: 405. ♀.
- \***pusilloides** Fischer. N. Y., Md., N. C., S. C., Kans.  
*Opius pusilloides* Fischer, 1964. Polskie Pismo Ent. 34: 433. ♀, ♂.
- \***rainierensis** Fischer. Wash. (Mt. Rainier).  
*Opius rainierensis* Fischer, 1964. Polskie Pismo Ent. 34: 244. ♀.
- \***relativus** Fischer. S. C.  
*Opius relativus* Fischer, 1964. Polskie Pismo Ent. 34: 435. ♀, ♂.
- \***restrictus** Fischer. S. C., Md.  
*Opius restrictus* Fischer, 1964. Polskie Pismo Ent. 34: 407. ♀, ♂.

- \*resupinus** Fischer. Calif. (San Bernardino Co.).  
*Opius resupinus* Fischer, 1964. Polskie Pismo Ent. 34: 409. ♀.
- richmondi** Gahan.  
 Taxonomy: Fischer, 1964. Polskie Pismo Ent. 34: 298-300.
- \*robsonensis** Fischer. B. C., Wash.  
*Opius robsonensis* Fischer, 1964. Polskie Pismo Ent. 34: 300. ♀, ♂.
- rosicola** Muesebeck. Sask. Host: Replace *Rhagoletis alternata* (Fall.) with *R. basiola* (O. S.).  
 Biology: Balduf, 1959. Ill. Biol. Monogr. 26: 32-40.  
 Taxonomy: Fischer, 1964. Polskie Pismo Ent. 34: 303-305.
- \*rudiformis** Fischer. Europe; Ont.  
*Opius rudiformis* Fischer, 1958. Beitr. z. Ent. 8: 201. ♀.  
 Taxonomy: Fischer, 1964. Polskie Pismo Ent. 34: 395-396.
- \*ruficolor** Fischer. Fla.  
*Opius ruficolor* Fischer, 1964. Polskie Pismo Ent. 34: 492. ♀.
- \*rufipleurum** Fischer. N. Y., S. C.  
*Opius rufipleurum* Fischer, 1964. Polskie Pismo Ent. 34: 264. ♀, ♂.
- rufocinctus** Gahan. Md., N. C., S. C., Kans.  
 Taxonomy: Fischer, 1964. Polskie Pismo Ent. 34: 376-378.
- \*sabroskyi** Fischer. Va. (Fairfax Co.).  
*Opius sabroskyi* Fischer, 1964. Polskie Pismo Ent. 34: 396. ♀, ♂.
- \*salmonensis** Fischer. B. C. (Shuswap Lake).  
*Opius salmonensis* Fischer, 1964. Polskie Pismo Ent. 34: 438. ♀.
- sanguineus** (Ashmead). Ariz.  
 Biology: Cazier, 1962. Pan-Pacific Ent. 38: 184-186.
- \*severini** Fischer. N. Y., Mich., S. Dak., Iowa, Colo., Utah, Alta., Que.  
*Opius severini* Fischer, 1964. Polskie Pismo Ent. 34: 223. ♀, ♂.
- \*shuleri** Fischer. S. C. (McClellanville).  
*Opius shuleri* Fischer, 1964. Polskie Pismo Ent. 34: 524. ♂.
- \*sierraanchaensis** Fischer. Ariz. (Sierra Ancha).  
*Opius sierraanchaensis* Fischer, 1964. Polskie Pismo Ent. 34: 346. ♂.
- \*similaris** Fischer. N. Y.  
*Opius similaris* Fischer, 1964. Polskie Pismo Ent. 34: 267. ♀, ♂.
- \*smithi** Fischer. D. C., Va., S. C.  
*Opius smithi* Fischer, 1964. Polskie Pismo Ent. 34: 410. ♀, ♂.
- \*southcarolinensis** Fischer. S. C. (Greenville).  
*Opius southcarolinensis* Fischer, 1964. Polskie Pismo Ent. 34: 526. ♂.
- spinaciae** Thomson.  
*Opius pegomyiae* Gahan. Syn. according to Max Fischer (*in litt.*).
- \*stenopectus** Fischer. S. C. (McClellanville).  
*Opius stenopectus* Fischer, 1964. Polskie Pismo Ent. 34: 461. ♂.
- striativentris** Gahan. Mich., Kans.  
 Taxonomy: Fischer, 1964. Polskie Pismo Ent. 34: 440-442.
- succineus** Gahan. Pa., Md., D. C., Ont., Sask., Alta.  
 Taxonomy: Fischer, 1964. Polskie Pismo Ent. 34: 269-271.
- \*suffixus** Fischer. N. Y., Mich., Wis.  
*Opius suffixus* Fischer, 1964. Polskie Pismo Ent. 34: 493. ♂.
- suturalis** Gahan. Tex. Host: *Liriomyza pictella* (Thoms.).
- \*tabellariae** Fischer. N. Y. (Geneva). Host: *Rhagoletis tabellaria* (Fitch).  
*Opius tabellariae* Fischer, 1964. Polskie Pismo Ent. 34: 305. ♀, ♂.
- \*tablerockensis** Fischer. S. C.  
*Opius tablerockensis* Fischer, 1964. Polskie Pismo Ent. 34: 250. ♀, ♂.



\**tangens* Fischer. Fla. (Gainesville).

*Opius tangens* Fischer, 1964. Polskie Pismo Ent. 34: 442. ♀.

\**testaceifactus* Fischer. Fla., S. C.

*Opius testaceifactus* Fischer, 1964. Polskie Pismo Ent. 34: 220. ♀, ♂.

*tibialis* (Ashmead). Mass., N. Y., N. J., N. C., S. C., Calif.

Taxonomy: Fischer, 1964. Polskie Pismo Ent. 34: 495-497.

\**troyensis* Fischer. N. Y. (Troy).

*Opius troyensis* Fischer, 1964. Polskie Pismo Ent. 34: 325. ♀.

*utahensis* Gahan. Mass., Va., Fla., Minn., Que.

Taxonomy: Fischer, 1964. Polskie Pismo Ent. 34: 222-223.

\**vockerothi* Fischer. Que., B. C., Wash.

*Opius vockerothi* Fischer, 1964. Polskie Pismo Ent. 34: 348. ♀, ♂.

\**walleyi* Fischer. Fla. (Chattahoochee).

*Opius walleyi* Fischer, 1964. Polskie Pismo Ent. 34: 444. ♂.

\**weemsi* Fischer. N. C. (Mt. Pisgah).

*Opius weemsi* Fischer, 1964. Polskie Pismo Ent. 34: 446. ♀, ♂.

\**westerlyanus* Fischer. R. I. (Westerly).

*Opius westerlyanus* Fischer, 1964. Polskie Pismo Ent. 34: 528. ♀.

### Subfamily BRACONINAE

Taxonomy: Telenga, 1936. Faune URSS, v. 5, No. 2 (1) (keys to genera), pp. 24-27 (Russian), 307-309 (German).—Tobias, 1957. Zool. Zhur. 36: 1338-1354.

#### Genus VIPIO Latreille, pp. 157-158

*belfragei* (Cresson). Ga., Ind., Mo. Host: *Sphenophthorus cariosus* (Oliv.).

*monilemae* Gahan. Calif.

*sanguineus* (Provancher). Transf. to *Iphiaulax* Latreille, p. 159.

#### Genus IPHIAULAX Foerster, pp. 158-159

*erythrus* (Viereck). Tex., N. Mex.

*manteri* Nettleton. Ga. Host: *Oiketicus abbottii* Grote.

*perepicus* Viereck. Tex., N. Mex.

*sanguineus* (Provancher), n. comb. Transf. from *Vipio*, 158 (*teste* C. F. W. Muesebeck, after examination of type). Ariz.

#### Genus ATANYCOLIMORPHA Viereck, p. 159

*dissitus* (Cresson). Oreg.

#### Genus CYANOPTERUS Haliday, p. 159

*laevis* (Provancher). Pa., Minn.

#### Genus COELOIDES Wesmael, pp. 160-161

*brunneri* Viereck.

*Coeloides scolyti* Cushman (syn. by Muesebeck, in Ryan, 1962. Ent. Soc. Amer. Ann. 55: 403.)

Biology: Ryan, 1962. Ent. Soc. Amer. Ann. 55: 403-409.—Ryan and Rudinsky, 1962. Canad. Ent. 94: 748-763.

Embryology: Ryan, 1963. Ent. Soc. Amer. Ann. 56: 639-648.

*dendroctoni* Cushman.

Biology: Reid, 1963, Canad. Ent. 95: 233-235.

*piissodis* (Ashmead). N. S., N. B., Ont. Hosts: *Ips calligraphus* (Germ.), *I. grandicollis* (Eichh.), *Pissodes approximatus* Hopk.

*scolyti* Cushman. Syn. of *brunneri* Viereck.

Genus **ATANYCOLUS** Foerster, pp. 161-163

**hicoloriae** Shenefelt. Mich.

**rugosiventris** (Ashmead). Fla.

Genus **BRACON** Fabricius, pp. 163-169

\***acrobasidis** Muesebeck. Fla., N. J. Hosts: *Acrobasis caryae* Grote, *A. caryivorella* Rag., *A. comptoniella* Hulst.

*Bracon acrobasidis* Muesebeck, 1963. Ent. News 74: 158. ♀, ♂.

\***agathymi** Muesebeck. Ariz., Texas. Hosts: *Agathymus neumogini* (Edw.), *A. aryxna* (Dyar), *A. mc Alpinei* (Freem.).

*Bracon agathymi* Muesebeck, 1963. Ent. News 74: 157. ♀, ♂.

**americanus** (Ashmead). Colo., Ariz.

**analcidis** Ashmead. Host: *Sphenophthorus parvulus* Gyll.

\***bruchivorus** Muesebeck. Calif. Hosts: "Bruchids," *Acanthoscelides* sp.

*Bracon bruchivorus* Muesebeck, 1963. Ent. News 74: 162. ♀, ♂.

**caulicola** (Gahan). Host: *Suleima helianthana* (Riley).

Biology: Wester, 1956. Ent. Soc. Wash. Proc. 58: 283-284.

**cephi** (Gahan).

Biology: Nelson and Farstad, 1953. Canad. Ent. 85: 103-107.—Holmes, et al., 1963. Canad. Ent. 95: 113-126.

**cushmani** (Muesebeck). Host: *Rhyacionia frustrana* (Comst.).

**erucarum** (Cushman). Okla., Wyo., Mont.

**furtivus** Fyles.

Biology: Miller, 1963. Ohio Jour. Sci. 63: 73.

**gastroideae** Ashmead. S. Dak.

**gelechiae** Ashmead. Hosts: *Anacamptis fragariella* Busck, *Anthophila pariana* (Clerck), *Argyrotaenia citrana* (Fern.), *Dichomeris marginella* (F.), *Dioryctria disclusa* Heinr., *D. reniculella* (Grote), *Keiferia glochinella* (Zell.), *Pterophorus periscelidactylus* Fitch, *Pyrausta signatalis* (Wlkr.), *Thymelicus lineola* (Grote).

Biology: Poos, 1928. Ent. Soc. Wash. Proc. 30: 149.—Gupta, 1951. Nature 168: 793.—Narayanan and Rao, 1955. Beitr. z. Ent. 5: 36-60.—Wester, 1956. Ent. Soc. Wash. Proc. 58: 284.

Anatomy: Narayanan and Rao, 1955. Beitr. z. Ent. 5: 286-293 (♀ reproductive system).

**gemmaecola** (Cushman). N. J., Ohio, Ark., Tex.

**hebetor** Say. Host: *Laetilia coccidivora* (Comst.).

Taxonomy: Lal, 1946. Indian Jour. Ent. 8: 85-88.—Puttarudriah and Channa Basavanna, 1956. Bul. Ent. Res. 47: 183-191.

Biology: Kanungo, 1955. Current Sci. 24: 59.—Grosch, La Chance and Sullivan, 1955. Ent. Soc. Amer. Ann. 48: 415-416.—Grosch, 1959. Ent. Soc. Amer. Ann. 52: 94-98.—Clark, 1963. Ent. Soc. Amer. Ann. 56: 616-619.

\***gossypii** Muesebeck. S. C., La., Ga., Miss., Tex., Fla., Ark. Host: ? *Anthonomus grandis* Boh.

*Bracon gossypii* Muesebeck, 1963. Ent. News 74: 161. ♀, ♂.

**hobomok** (Viereck). Mich., Iowa.

**hyslopi** (Viereck). Host: *Platyptilia williamsii* Grin.

\***jani** Muesebeck. Minn. (Cloquet). Host: *Janus abbreviatus* (Say).

*Bracon jani* Muesebeck, 1963. Ent. News 74: 164. ♀, ♂.

**juncicola** Ashmead. B. C.

**lissogaster** Muesebeck.

Biology: Somsen and Luginbill, 1956. U. S. Dept. Agr. Tech. Bul. 1153, 7 pp.

**mellitor** Say. Ont. Hosts: *Coeliodes inaequalis* (Say), *Conotrachelus nenuphar* (Hbst.), *Cylas formicarius elegantulus* (Sum.), *Ostrinia nubilalis* (Hbn.), *Rhyacionia adana* Heinr., *R. frustrana* (Comst.), *Rhynchites bicolor* (F.), *Smicraulax tuberculatus* Pierce, *Sparganothis sulfurana* (F.), *Tachypterellus quadrigibbus* (Say), *Tyloclerma foveolatum* (Say).

**nevadensis** Ashmead. Ariz.

**oenotherae** (Muesebeck). Minn., Nebr.

**papaipemae** (Gahan). Mich., Minn.

**\*piger** Wesmael. Europe; Calif. Host: *Etiella zinckenella* (Treit.).

*Bracon piger* Wesmael, 1838. Brussels Acad. Sci. Mém. 11: 48. ♀.

Biology: Parker, 1951. U. S. Dept. Agr. Tech. Bul. 1036, pp. 8-11.—

Clausen, 1956. U. S. Dept. Agr. Tech. Bul. 1139, p. 87.

**pini** (Muesebeck) N. S., N. B., Va., Colo., Calif. Host: *Pissodes terminalis* Hopping.

**platynotae** (Cushman). Host: *Platynota stultana* (Wlsm.).

**politiventris** (Cushman). Hosts: *Archips rosanus* (L.), *Dioryctria reniculella* (Grote).

**punctatus** (Muesebeck). Md., Mich. Host: *Faustinus cubae* (Boh.).

**quinnipiacorum** (Viereck). S. Dak.

**\*radicis** Shenefelt. Wis. Host: *Hylobius radicis* Buch.

*Bracon radicis* Shenefelt, 1960. Canad. Ent. 92: 872. ♀, ♂.

**rhyacioniae** (Muesebeck). Colo. Host: *Laspeyresia youngana* (Kearf.).

**\*rosaceani** (Muesebeck). Oreg. (Gresham). Host: *Archips resaceanus* (Harris).

*Bracon rosaceani* Muesebeck, 1963. Ent. News 74: 160. ♀, ♂.

**rudbeckiae** (Muesebeck). Ark.

**sanninoideae** (Gahan). Wis. Host: *Alcathoe caudata* (Harr.).

**sesiae** (Muesebeck). Colo.

**tenuiceps** (Muesebeck). Ohio, Mich., Idaho.

**thurberiphagae** (Muesebeck).

Biology: Bennett, 1960. Bul. Ent. Res. 50: 747-749.

**tychii** (Muesebeck). Idaho.

**xanthonotus** Ashmead. Hosts: *Malacosoma disstria* Hbn., *M. pluviale* recenter Dyar, *Sabulodes caberatae* Gn.

### Subfamily SPATHIINAE

Taxonomy: Nixon, 1943. Roy. Ent. Soc., London Trans. 93: 173-456.

Genus SPATHIUS Nees, pp. 169-170

**brachyurus** Ashmead. Mass.

**brunneri** Viereck. Utah, Idaho, Oreg., Calif. Host: *Pseudohylesinus nebulosus* (Lec.).

**californicus** Ashmead. Idaho.

**canadensis** Ashmead. Pa., Ohio, Ky.

Morphology: Snodgrass, 1941. Smithsn. Misc. Collect. 99: 35-36 (♂ genitalia).

Biology: Kaston, 1937. Conn. Agr. Expt. Sta. Bul. 396, pp. 351-353.—  
Kaston, 1939. Conn. Agr. Expt. Sta. Bul. 420, pp. 33-35.

**pallidus** Ashmead. Tex.

**simillimus** Ashmead. Miss., Wis.

## Subfamily ROGADINAE

Genus *ROGAS* Nees, pp. 170–172*abdominalis* (Cresson). D. C.*fumipennis* (Cresson). N. H., N. Y., Wis.*granulatus* DeGant. Mich.*graphicus* Cresson. S. Dak., Wyo.*hyphantriae* Gahan.Biology: Bogavac, 1955. Plant Prot. (Belgrade), No. 32, pp. 17-30.—  
Tadić, 1959. Internatl. Congr. Crop Prot. Proc. 4, v. 1, p. 874.\**indicus* Cameron. Alaska (Sitka), not "Sitka on the Ganges" as given with  
orig. descr. (*teste* Mather, 1957. Zool. Soc. Calcutta Proc., Moo-  
kerjee Mem. vol., p. 350).*Rhogas indicus* Cameron, 1910. Wien. Ent. Ztg. 29: 3. ♂.*laphygmae* Viereck. Fla.; Cuba, Nicaragua.*mandibularis* Cresson. Ill., Kans.*molestus* Cresson. Wyo.*perplexus* Gahan. Host: *Trichoplusia ni* (Hbn.).Genus *PELECYSTOMA* Wesmael, p. 172*discoideum* (Cresson). N. Y., Pa., Md.Genus *PETALODES* Wesmael, p. 172*palmaris* Walley. Wis., Minn., Calif.*ufei* Walley. Nev.Genus *YELICONES* Cameron, p. 173\**Pectenopius* Fischer, 1961. Naturhist. Mus. Wien. Ann. 64:156. N.  
syn., *teste* C. F. W. Muesebeck, from literature.Type: *Pectenopius paradoxus* Fischer. By monotypy and orig.  
desig.Genus *BUCCULATRIPLEX* Viereck, p. 173*bucculatricis* (Ashmead). Ill. Host: *Bucculatrix ainsliella* Murt.

Biology: Schaffner, 1959. U. S. Dept. Agr. Misc. Pub. 767, p. 65.

Genus *ONCOPHANES* Foerster, p. 173*americanus* (Weed). Wash. Host: *Endothemia hebesana* (Wlkr.).Biology: Zeller and Schuh, 1944. Oreg. Agr. Exp. Sta. Bul. 418, p. 48.—  
Schaffner, 1959. U. S. Dept. Agr. Misc. Pub. 767, p. 66.—Bennett,  
1961. Tenn. Acad. Sci. Jour. 36: 353.*betulae* Muesebeck. Wis.

Biology: Schaffner, 1959. U. S. Dept. Agr. Misc. Pub. 767, p. 66.

Genus *PHANOMERIS* Foerster, pp. 174–175*metalli* Muesebeck. Maine, Mich., Wis. Host: *Cameraria bethunella* Chamb.*phyllotomae* Muesebeck.

Biology: Dowden, 1962. U. S. Dept. Agr., Agr. Handb. 226, p. 63.

Genus *XENARCHA* Foerster, Sup. 1, p. 35*hopkinsi* (Ashmead). Ark.

## \*Subfamily HORMIINAE

Insert before Tribe Pambolini, p. 175.

Taxonomy: Hedqvist, 1963. Ent. Tidskr. 84: 30-61 (key to genera of the World).

Tribe *Pambolini* and Tribe *Hormiini*, p. 175

Delete both headings and combine component groups under Subfamily Hormiinae.

Genus *HORMIUS* Nees, pp. 175-176

**dispar** (Brues). Md., Ill., Mo., Tex.

\**Hormius micropterus* Hedqvist, 1963. Ent. Tidskr. 84: 50-51. ♀. N. syn. (*teste* C. F. W. Muesebeck, from literature).

\*Genus *MONITORIELLA* Hedqvist

*Monitoriella* Hedqvist, 1963. Ent. Tidskr. 84: 44.

Type: *Monitoriella elongata* Hedqvist. Orig. desig.

Insert in Hormiinae after *Pambolus* Haliday, p. 175.

\**elongata* Hedqvist. Tex.; Mexico. From galls on *Philodendron*.

*Monitoriella elongata* Hedqvist, 1963. Ent. Tidskr. 84: 46. ♀, ♂.

\*Genus *CANTHAROCTONUS* Viereck

*Cantharoctonus* Viereck, 1912. U. S. Natl. Mus. Proc. 42: 617.

Type: *Cantharoctonus stramineus* Viereck. By monotypy and orig. desig.

Insert in Hormiinae after *Parahormius* Nixon, p. 176.

\***brunneus** Hedqvist. Fla. (Sebring).

*Cantharoctonus brunneus* Hedqvist, 1963. Ent. Tidskr. 84: 38. ♀.

Subfamily DORYCTINAE

Taxonomy: Nixon, 1943. Bul. Ent. Res. 34: 257-267.—Granger, 1949. Inst. Sci. Madagascar Mem., Ser. A, Biol. Anim. 2: 94-145.—Parrott, 1955. Roy. Soc. N. Zealand Trans. 82: 1157-1163.—Tobias, 1961. Zool. Zhur. 40: 529-535.

Genus *DORYCTES* Haliday, pp. 176-177

**apacheus** Viereck. Mo.

**atripes** (Provancher). Pa., D. C., Wis.

**fartus** (Provancher). N. Y., Minn.

**incertus** Ashmead. Mass.

**pacificus** (Provancher). Host: *Paratima conicola* Fisher.

**rufiventris** (Brullé). Ont. Host: *Xylotrechus colonus* (F.).

Genus *DORYCTINUS* Roman, p. 178

**secundus** Muesebeck and Walkley. Ariz.

Genus *POLYSTENOIDES* Muesebeck, p. 178

**lignicola** Muesebeck. Md.

Genus *GLYPTOCOLASTES* Ashmead, p. 178

**bruchivorus** Crawford. Ariz.; Peru, Canal Zone. Host: *Dendrobiella quadripinosa* (Lec.).

Genus *RUSSELLELLA* Muesebeck and Walkley, p. 178

**prosopidis** (Muesebeck). Ariz.

Genus **HETEROSPILUS** Haliday, pp. 178–180

**koebelei** (Ashmead). Hosts: *Prodoxus aenescens* Riley, *P. marginatus* Riley, *Tegeticula maculata* (Riley).

**melleus** (Ashmead). Delete "W. Va. (Morgantown.)" Fla., Md. Hosts: *Gnorrinoschema gallaeasterella* Kell., *Mompha sexnotella* Chamb.

**prosopidis** Viereck. Okla., Ariz., Calif.; Mexico.

Genus **PIOSCELUS** Muesebeck and Walkley, p. 180

**wichitus** (Viereck). Md.

Genus **ALLORHOGAS** Gahan, p. 180

**bruesi** (Muesebeck and Walkley). Transf. from *Miocolus* Foerster, p. 182 (*teste* Muesebeck, 1964. Ent. Soc. Wash. Proc. 66: 88).

Genus **DENDROSOTER** Wesmael, p. 181

**scaber** Muesebeck. Oreg. Host: *Cylindrocopturus longulus* (Lec.).

**scolytivorus** (Viereck and Rohwer). Idaho, Ariz. Host: *Ips oregonis* (Eichh.).

**sulcatus** Muesebeck. Host: *Ips grandicollis* (Eichh.).

Genus **ODONTOBRACON** Cameron, pp. 181–182

**grandis** Ashmead. Tex., Calif.

Genus *Miocolus* Foerster, p. 182

Transf. to Blacinae and place as syn. of *Blacus* Nees, p. 110; transf. *bruesi* Muesebeck and Walkley to *Allorhogas* Gahan, p. 180, and place both *minimus* (Cresson) and *utilis* (Cresson) as synonyms of *Monolexis fuscicornis* Foerster, p. 182 (*teste* Muesebeck, 1964. Ent. Soc. Wash. Proc. 66: 88).

Genus **MONOLEXIS** Foerster, p. 182

**fuscicornis** Foerster.

*Anisopelma minimus* Cresson (syn. *teste* Muesebeck, 1964. Ent. Soc. Wash. Proc. 66: 88).

*Anisopelma utilis* Cresson (syn. *teste* Muesebeck, 1964. Ent. Soc. Wash. Proc. 66: 88).

Genus **ACRISIS** Foerster, p. 182

**americana** (Ashmead). Pa., Mich.

Family **ICHNEUMONIDAE**

This second supplement of the Hymenoptera Catalog brings many changes, some of them complex, in the nomenclature of the Ichneumonidae. These changes have resulted from revisionary work in several subfamilies, and from a treatise of the type-species of the Foerster genera which were established originally without included species. In several instances, where the conclusions of two competent systematists differed and no specimens of the species involved were available, or no definitive characters given, the course followed was the one involving the least change.

The pagination for species in "Hymenoptera of Beulah, New Mexico," by H. L. Viereck, 1903 (February), Amer. Ent. Soc. Trans. 29: 43 (bottom)–100, differs in the separate (published March 20). In the latter, the article begins at the top of page 43 and ends on page 99. The description of a given species usually occurs one page earlier in the separate. The pagination of species listed in the Catalog is that of the separate except in the Second Supplement, where a few were changed before the reason was discovered.

The following revisions, when they occur in the text, are cited by author and date only because of frequency of occurrence, except that the complete reference is given for all new species and subspecies.

**Revisions:** Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: I-IX, 1-318 (Metopiinae).—Townes and Townes (*et al.*) 1960. U. S. Natl. Mus. Bul. 216 (Pt. 2): I-VII, 1-673 (Ephialtinae, Xoridinae, Acaenitinae).—Townes, Townes, and Gupta, 1961. A Reclassification of the Indo-Australian Ichneumonidae [Amer. Ent. Inst. Mem. 1] pp. I-IV, 1-552 (super-gen. & gen. keys; syn.).—Heinrich, 1961 (1960)-1962. Canad. Ent. Sup. 15 [vol. 92], pt. I, pp. 1-87; Sup. 18 [vol. 92], pt. II, pp. 89-205; Sup. 21 [vol. 93], pt. III, pp. 207-368; Sup. 23, pt. IV, pp. 370-505; Sup. 26, pt. V, pp. 507-671; Sup. 27, pt. VI, pp. 675-802; Sup. 29, pt. VII, pp. 803-886 (Ichneumoninae).—Townes and Townes, 1962. U. S. Natl. Mus. Bul. 216 (Pt. 3): I-IV, 1-602 ((Mesostenini)=Cryptini).—Townes and Gupta, 1962. Amer. Ent. Inst. Mem. 2: 1-305 (Hemigasterini).—Dasch, 1964. Amer. Ent. Inst. Mem. 3: 1-304 (Diplazoninae).—Peck, 1964. Canad. Ent. Mem. 35, pt. VIII of Heinrich Synopsis Nearc. Ichneumoninae, pp. 891-925.—Townes, Momoi, and Townes, 1965. A catalogue and Reclassification of the Eastern Palearctic Ichneumonidae. Amer. Ent. Inst. Mem. 5: 1-661. [This publication appeared after the ms. for this supplement was completed: it is cited only when obligatory.]

**Keys:** Constantineanu, 1959. Fauna Republicii Populare Romine, Ins., v. 9, fasc. 4, pp. [107]-109.—Perkins, 1959. Roy. Ent. Soc., London Handbook 7 (Pt. 2 (ai)): 1-18 (keys to subfamilies).—Short, 1959. U. S. Natl. Mus. Proc. 110 (3419): 391-511 (keys to larvae).—Constantineanu, 1961. Beit. z. Ent. 11 (7/8): 685-732 (keys to subfamilies).

**Taxonomy and/or Nomenclature:** Perkins, 1962. Brit. Mus. (Nat. Hist.) Bul., Ent. 11 (8): [385]-483 (types of Foerster genera).

### Subfamily PIMPLINAE

**Revision:** Townes and Townes (*et al.*) 1960. U. S. Natl. Mus. Bul. 216 (Pt. 2): 3-676 (as Ephialtinae, Xoridinae, Acaenitinae).

### Tribe EPHIALTINI

#### (=Pimplini of Catalog)

#### \*Genus EXERISTES Foerster

**Exeristes** Foerster, 1868. Naturh. Ver. Rheinlande Verh., v. 25, p. 164.

Type: (*Pimpla roborator* Gravenhorst) = *roborator* (Fabricius). Incl. by Schmiedeknecht, 1888.

Place before *Scambus* Hartig, p. 185.

**comstockii** (Cresson). S. C. Hosts: *Dioryctria clarioralis* (Wlkr.), *Laspeyresia caryana* (Fitch). Transf. from *Calliephialtes* Ashmead (*teste* Townes and Townes, 1960, p. 11).

**Biology:** Arthur, 1963. Canad. Ent. 95: 1079-1085 (life history, imm. stages).

Genus SCAMBUS Hartig, pp. 185-187, Sup. 1, pp. 36-37

**Ateleophadnus** Cameron. Place as valid subg. of *Scambus*.

**Pseudopoemenia** Kiss. Place as syn. of subg. *Ateleophadnus*.

**Endromopoda** Hellén. Place as valid subg. of *Scambus*.

**Revision:** Walley, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 14-79.

#### SCAMBUS subgenus ENDROMOPODA Hellén

Remove from syn. of *Scambus* Hartig (*teste* Walley 1960. In Townes and Townes *Op. cit. supra*, pp. 17, 18).

**detritus** (Holmgren). Host: *Cephus cinctus* Nort.

**Taxonomy and/or Biology:** Salt 1931. Brit. Ent. Res. 22 (4): 519-526 figs.—Holmes 1953. Canad. Ent. 85: 339.

\***productus** Walley. Alaska, Yukon, N. W. T., N. S., south to Calif. (Mts.), Colo., and R. I.

**Scambus (Endromopoda) productus** Walley, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 19, 23. ♀, ♂.

\***rubescens** Walley. Ont. to N. Y. west to Sask., Wyo., and Kansas.

**Scambus (Endromopoda) rubescens** Walley 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 18, 19. ♂, ♀.

#### SCAMBUS subgenus ATELEOPHADNUS Cameron

**Pseudopoemenia** Kiss. (Syn. by Walley, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 17, 18, 27.)

\***deceptor** Walley. Que. to B. C., south to R. I., N. Y., Mich., Colo., Wash.

**Scambus (Ateleophadnus) deceptor** Walley, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2) 28, 35. ♂, ♀.

\***granulosus** Walley. N. W. T. to N. S. south to Calif., N. Mex., S. C. Host: *Mompha eloisella* (Clem.).

**Scambus (Ateleophadnus) granulosus** Walley, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 28, 31. ♂, ♀.

**pterophori** (Ashmead). Alaska, Yukon.

#### SCAMBUS subgenus SCAMBUS Hartig

**alboricta** (Cresson). Transf. To *Acropimpla* Townes.

**aplopappi** (Ashmead). Idaho. Hosts: *Stomopteryx nigrella* (Chamb.), *Periploca ceanothiella* (Cosens).

**atrocoxalis** (Ashmead). Yukon, N. W. T., Newfoundland, Alta.; Sweden. Male unknown (*teste* Walley, 1960. In Townes and Townes, p. 53).

**bicoloripes** (Ashmead). Syn. of **brevicornis** (Gravenhorst).

\***brevicornis** (Gravenhorst). Alaska, Yukon to Newfoundland, south to Calif., Utah, Colo., Mich., N. Y., N. J. Hosts: *Anthophila pariana* (Clerck); *Choristoneura rosaceana* (Harris); *Laspeyresia nigricana* (Steph.); *Laspeyresia* sp.; *Polychrosis viteana* (Clem.) *Spiilonota ocellana* (D. & S.).

**Epiurus bicoloripes** Ashmead. (Syn. by Walley, 1960. In Townes and Townes, p. 55.)

\***canadensis** Walley. Alaska, Yukon, N. W. T., B. C. to N. B. and N. S., south to Oreg. and Maine, Colo. Hosts: *Choristoneura conflictana* (Wlkr.); *Glypta fumiferanae* (Vier.).

**Scambus (Scambus) canadensis** Walley, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 38, 39, 58. ♂, ♀.

\***decorus** Walley. N. S. to B. C., south to N. H. and Wash., Alaska. Hosts: *Amorbia humerosa* (Clem.); *Choristoneura fumiferana* (Clem.); *Coleophora pruniella* Clem.; *C. salmani* Heinr. *Chrysopora stipella* var. *naeviferella* (Dup.); *Gracillaria* sp.; *Paraclemensia acerifoliella* (Clem.); *Phalonia rutilana* (Hbn.); *Spiilonota ocellana* (D. & S.).

**Scambus (Scambus) decorus** Walley, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 37, 40, 75. ♂, ♀.

\***dioryctriae** Walley. Alta., Sask. Host: *Dioryctria reniculella* (Grote).

**Scambus (Scambus) dioryctriae** Walley, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 38, 40, 61. ♂, ♀.

**ephialtoides** Cushman. B. C., Oreg. Host: "anthomyid larva."

Taxonomy: Walley, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2), pp. 42-43, 46 (under *occidentalis*).

**euurae** (Ashmead). A subsp. of **vesicarius** (Ratzeburg).



- hispa** (Harris). Alaska, Yukon, N. W. T. Hosts: *Acrobasis betulella* Hlst.; *A. comptoniella* Hlst.; *A. rubrifasciella* Pack.; *Anacampsis innocuella* (Zell.); *Anisota rubicunda* (F.); *Archips rosanus* (L.); *Choristoneura pinus* (Free.); *Dioryctria reniculella* (Grt.); *Episimus argutanus* (Clem.); *Exartema connectum* (McD.); *Hedra variegana* (Hbn.); *Laspeyresia molesta* Busck; *Lexis bicolor* (Grt.); *Malacosoma disstria* (Hbn.); *Metallus rohweri* MacG.; *Psilocorsis* sp.; *Spilonota ocellana* (D. & S.); *Tischeria* sp.; *Arthrochlamys bebbianae* Brown; *Xenochalepus dorsalis* Thnbg.
- Pimpla (Epiurus) nigrifrons** Viereck. Remove from syn., a valid species.
- Epiurus innominatus** Viereck. Place as syn. of **transgressus** (Holmgren).
- Biology: Arthur, 1963. Canad. Ent. 95 (10): 1085-1086 (life history, imm. stages).
- \*imparis** Walley. B. C., Alta., Wash., Calif., Utah, Colo. Hosts: *Recurvaria milleri* Busck; *Zelleria hainbachi* Busck.
- Scambus (Scambus) imparis** Walley, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 37, 38, 51. ♂, ♀.
- lithocolletidis** (Ashmead). "It seems to belong in the nominate subgenus." (Walley, 1960. In Townes and Townes, p. 15.)
- \*longicorpus longicorpus** Walley. Alaska, Alta., Sask, Ont., Que., N. H. Hosts: *Dioryctria reniculella* (Grote); *?Laspeyresia youngana* (Kft.), *?Hylemyia anthracina* (Czerny).
- Scambus (Scambus) longicorpus longicorpus** Walley, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 37, 38, 43, 44. ♂, ♀.
- \*longicorpus occidentalis** Walley. B. C., Wash., Calif., Mont., Colo.
- Scambus (Scambus) longicorpus occidentalis** Walley, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 43, 46. ♂, ♀.
- nigrifrons** (Viereck). N. B., P. E. I., N. S., Mass., Mich. Host: *Hemerocampa leucostigma* (A. & S.); "*Orgyia*" sp.; tussock moth.
- Removed from syn. of **hispa** Harris. A valid species (*teste* Walley, 1960. In Townes and Townes, pp. 37, 40, 74).
- \*nucum** (Ratzeburg). Alaska, N. W. T., Que., N. S., N. H., B. C. Host: *Spilonota ocellana* (D. & S.).
- Pimpla nucum** Ratzeburg, 1844. Ichn. d. Forstins. v. 1, p. 115. ♀.
- \*portentus** Walley. B. C., Wash., Colo. Host: *?Laspeyresia* sp. on *Picea engelmanni*.
- Scambus (Scambus) portentus** Walley, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 37, 38, 40. ♂, ♀.
- \*subtilis** Walley. Oreg., Calif., Nev.
- Scambus (Scambus) subtilis** Walley, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 39, 47. ♀.
- tecumseh** Viereck. N. S. to Alaska south to N. C. and Calif. Hosts: *Acleris* sp. on *Cornus*; *Archips argyrospilus* (Wlkr.); *Choristoneura conflictana* (Wlkr.); *C. fumiferana* (Clem.); *Croesia albicomana* (Clem.); *Endotheria hebesana* (Hbn.); *Exotelia dodecella* (L.); *Lymnaecia phragmitella* (Staint.); *Malacosoma pluviale* (Dyar); *Phalania rutilana* (Hbn.); *Recurvaria* sp.; *Rhyacionia buoliana* (Schiff.); *Sparganothis sulphureana* Clem.; *Spilonota ocellana* (D. & S.); *Trichotaphe levisella* (Fyles).
- Biology: Arthur, 1963. Canad. Ent. 95 (10): 1085-1086 (life history, imm. stages).
- \*tenebrosus** Walley. Wash., Ariz., Colo.
- Scambus (Scambus) tenebrosus** Walley, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 38, 39, 60. ♂, ♀.
- transgressus** (Holmgren). B. C., Wash., Oreg. Hosts: *Acleris variana* (Clem.); *Anthophila pariana* (Clem.); *Archips rosanus* (L.); *Choristoneura fumiferana* (Clem.); *Grapholitha packardi* (Zell.); nematine stem gall on *Salix*.
- Epiurus innominatus** Viereck. Removed from syn. of **hispa** (Harris) (*teste* Walley, 1960. In Townes and Townes, p. 65).

**vesicarius euurae** (Ashmead). Changed status. Alaska to Calif., Ariz., Colo., east to N. W. T., Ont. Que., Minn. Hosts: *Pontania* sp., *P. californica* Marl., *P. ?desmodiodes* Walsh; *P. pacifica* Marl., *Euura* sp., *Nematus* sp.

**Scambus euurae** (Ashmead). Reduced to subsp. rank (*teste* Walley, 1960. *In* Townes and Townes, p. 50).

\***vesicarius vesicarius** (Ratzeburg). Alaska.

**Pimpla vesicaria** Ratzeburg, 1844. *Ichn. d. Forstins.*, v. 1, p. 115. ♂, ♀.

\***SCAMBUS** subgenus **ERYTHROSCAMBUS** Walley

**Scambus** subg. **Lissoscambus** Walley, 1960. *In* Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 17, 25.

Type: **Scambus (Lissoscambus) arizonensis** Walley. Orig. desig. and by monotypy.

\***arizonensis** Walley. Colo., Ariz., Mexico.

**Scambus (Lissoscambus) arizonensis** Walley, 1960. *In* Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 25. ♂, ♀.

\***SCAMBUS** subkerus **ERYTHROSCAMBUS** Walley

**Scambus** subg. **Erythroscambus** Walley, 1960. *In* Townes and Townes, 1960. U. S. Natl. Mus. Bul. 216 (Pt. 2): 17, 77.

Type: **Pimpla hirticauda** Provancher. Orig. desig.

**hirticauda** (Provancher). B. C., Calif., Ariz. Hosts: *Gracillaria* sp. on *Quercus garryana*; *Malacosoma pluviale* (Dyar.).

**Genus ALOPHOSTERNUM** Cushman, p. 187

**foliicola** Cushman. W. Va., Calif. Hosts: *Xenochalepus dorsalis* (Thnbg.), *Paraclemensia acerifoliella* (Fitch), "*Cameraria aceriella*?" (in Maine).

**Genus CALLIEPHIALTES** Ashmead, pp. 187–188, Sup. 1, p. 37

**comstockii** (Cresson). Transf. to **Exeristes** Foerster.

**ferrugineus** Cushman. Hosts: *Hypsipyla grandella* (Zell.) and *Pectinophora gossypiella* (Saund.) in Puerto Rico.

**grapholithae** (Cresson). Ont. Hosts: *Acrobasis caryae* (Grt.); *A. hebesella* Hulst; *A. rubrifasciella* Pack.; *Conotrachelus nenuphar* (Herbst); *Stagmatophora ceanothiella* Cos.; *Thyridopteryx ephemeriformis* (Haw.); *Phylloxera* gall; ?*Carmenta texana*; moth on *Fagus* nuts; shucks of *Carya* nuts.

**notandus** (Cresson). Transit. Zone. Host: *Epiblema desertana* Zell.

**nubilipennis** (Viereck). Transf. to **Dolichomitus** as subsp. of **terebrans** Ratz.

**nucicola** Cushman. Transf. to **Apistephialtes** Seyrig.

**petulca** (Cresson). Transf. to **Apistephialtes** Seyrig.

**stultor** (Davis). Transf. to **Apistephialtes** Seyrig as syn. of **variatiptes** (Provancher).

**thurberiae** Cushman. Host: Gall of *Disholcaspis* sp. on *Quercus oblongifolia*.

**variatiptes** (Provancher). Transf. to **Apistephialtes** Seyrig.

\***Genus APISTEPHIALTES** Seyrig

\***Apistes** Seyrig, 1927. Eos 3(2): 221. Preocc.

Type: (**Apistes perversus** Seyrig) = **ascaniae** (Rudow). By monotypy.

\***Apistephialtes** Seyrig, 1928. Eos 4 (3-4): 380. New name.

Place after **Calliephialtes** Ashmead, p. 188 of Catalog; Sup. 1, p. 37.

- \***arcticus** (Roman). Alaska, N. W. T.; Siberia.  
*Ephialtes arcticus* Roman, 1914. Acad. Imp. Sci. St. Petersburg Mem. ser. 8, cl. Phys. Math. 29 (7): 6. ♀.
- \***coracinus** Townes. N. Y., N. J., Md., N. C., Tex.  
*Apistephialtes coracinus* Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 88, 89, 99. ♂, ♀.
- \***dentatus** Townes. B. C. and Alta. to Calif., Colo. Hosts: *Enoclerus sphegeus* (F.), *Thanasimus nigriventris* (LeC.).  
*Apistephialtes dentatus* Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 88, 97. ♂, ♀.
- \***masoni** Townes. Alaska, Yukon, N. W. T., Alta., Man., Ont.  
*Apistephialtes masoni* Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 89, 93. ♀.
- nucicola** (Cushman). B. C., Wash., Ariz., N. Mex., Colo. Hosts: *Andricus* galls; "*Cynips maculipennis*"; *Disholcaspis eldoradensis* (Beut.); cynipid gall on oak; nuts of *Corylus*; *Pontania* gall on *salix*; *Gnorimoschema bacharisella* Busck; *Periploca ceanothiella* (Cossens); *Proteoteras arizonae* Kft.  
*Calliephialtes nucicola* Cushman (transf. by Townes and Townes, 1960, pp. 88, 89, 95).
- petulcus** (Cresson). Tex., Mex.  
*Calliephialtes petulca* (Cresson) (transf. by Townes and Townes, 1960, pp. 88, 89, 97).
- tenuiventris** (Holmgren). Hosts: *Melanophila consputa* Lec., *Xiphydria* sp.; sawfly in bark.  
*Pimpla tenuiventris* (Holmgren) (transf. by Townes and Townes, 1960, pp. 88, 89).  
*Ephialtes pusio* Walsh (transf. and syn. by Townes and Townes, 1960, p. 89).
- variatiipes** (Provancher). Ont. to N. J. west to Minn. Host: *Canarsia ulmiarrosorella* (Clem.).  
*Calliephialtes variatiipes* (Provancher) (transf. by Townes and Townes, 1960, pp. 88, 89, 91).  
*Calliephialtes stultor* (Davis) (transf. and syn. by Townes and Townes, 1960, p. 92).

Genus EPHIALTES Gravenhorst, Sup. 1, p. 37

(= *Pimpla* of Catalog, pp. 188-189)

- Closterocerus* Hartig. Transf. to syn. of *Dolichomitius* Smith.  
*Dolichomitius* Smith. Valid genus.  
*Diclosterocherus* Viereck. Transf. to syn. of *Dolichomitius* Smith.  
*Exeristeroidea* Viereck. Place as syn. of *Dolichomitius* Smith.
- brevis** Morley. Alta. to Que. Hosts: *Megachile inermis* Prov., *M. nivalis* Friese, *M. sp.*
- cephalotes** (Holmgren). Transf. to *Dolichomitius* Smith.
- \***decumbens** (Townes), n. comb. B. C., Calif., Colo., Iowa.  
*Pimpla decumbens* Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 102. ♂, ♀.
- dolichosoma** Viereck. Transf. to *Dolichomitius* Smith.
- gigas** Walsh. Transf. to *Dolichomitius* Smith as syn. of *messor perlongus* (Cresson).
- imperator** (Kriechbaumer). Transf. to *Dolichomitius* Smith.
- irritator** (Fabricius). Transf. to *Dolichomitius* Smith.
- macer** Cresson. Host: "*N. brevicornis*" in *Pinus ponderosa*.  
 Taxonomy (identity of species): Townes and Townes, 1960, pp. 104-105 (under *Pimpla*).
- perlongus** (Cresson). Transf. to *Dolichomitius* Smith as subsp. of *messor* (Gravenhorst).
- ptelas** (Say). Transf. to *Dolichomitius* Smith.

**pusio** Walsh. Transf. to **Apistephialtes** Seyrig as syn. of **tenuiventris** (Holmgren).

**pygmaeus** (Walsh). Transf. to **Dolichomitus** Smith.

\***spatulata** (Townes) n. comb. Maine and N. S. to N. C., west to B. C. and Calif. Hosts: *Ancistrocerus lineativentris* Cameron; *Rygchium* sp.

**Pimpla spatulata** Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 102, 106. ♂, ♀.

**tenuiventris** Holmgren. Transf. to **Apistephialtes** Seyrig.

#### \*Genus ANASTELGIS Townes

**Anastelgis** Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 10, 109.

Type: **Anastelgis terminalis** Townes. Orig. desig.

Place after **Ephialtes** Gravenhorst, Sup. 1, p. 37 (= **Pimpla** of Catalog, p. 189).

\***terminalis** Townes. Wash., Calif.

**Anastelgis terminalis** Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 109, 110. ♂, ♀.

#### Genus DOLICHOMITUS Smith

**Closterocerus** Hartig. (Preocc.) Transf. from syn. of (**Pimpla** of Catalog) = **Ephialtes** Grav., p. 188.

**Dolichomitus** Smith. Transf. from syn. of (**Pimpla** of Catalog) = **Ephialtes** Grav., p. 188. Valid genus.

**Disclasterocerus** Viereck. Transf. from syn. of (**Pimpla** of Catalog) = **Ephialtes** Grav., p. 188.

**Exeristoidea** Viereck. Transf. from syn. of (**Pimpla** of Catalog) = **Ephialtes** Grav., p. 188.

Place in **Ephialtini** on p. 189 after **Anastelgis** Townes (*teste* Townes and Townes, 1960, p. 111).

\***aciculatus** (Hellén). Yukon, B. C., Que., Europe. Host (in Europe): *Tetropium gabrieli* Weise in *Larix europea*.

**Ephialtes aciculatus** Hellén, 1915. Acta Soc. Fauna et Flora Fennica 40: 23, 25. ♀.

\***buccatus** Townes. B. C., Oreg., Colo.

**Dolichomitus buccatus** Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 115, 141. ♀.

\***californicus** Townes. B. C. to Calif., Idaho, Ariz., Utah, Colo., N. Mex. Hosts: *Oeme costata* Lec., ?*Semanotus nicolas* (White).

**Dolichomitus californicus** Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 113, 116, 146. ♂, ♀.

**cephalotes** (Holmgren). Que., Sask.

**Pimpla cephalotes** (Holmgren) (transf. by Townes and Townes, 1960, pp. 115, 127).

\***cuspidatus** Townes. Calif. Host: *Monochamus maculosus* Hald.

**Dolichomitus cuspidatus** Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 113, 114, 120. ♂, ♀.

**dolichosoma** (Viereck). Ga., Miss., Kans., Colo.

**Pimpla dolichosoma** (Viereck) (transf. by Townes and Townes, 1960, pp. 113, 114, 116).

\***flexilis** Townes. Yukon, N. W. T., Man.

**Dolichomitus flexilis** Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 115, 142. ♀.

\***foxleei** Townes. B. C., Wash., Oreg., Calif., Alta., Idaho, Mont., Colo., Ont., Que., N. S. Maine. Host: *Acanthocinus* sp.

- Dolichomitus foxleei*** Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 116, 145. ♀.
- imperator** (Kriechbaumer). Transcont. in Hudsonian, Canad. and Transit. Zones. Hosts: *Monochamus* sp.; ? borers in conifers.
- Pimpla imperator*** (Kriechbaumer) (transf. by Townes and Townes, 1960, pp. 114, 154).
- irritator** (Fabricius). Hosts: *Anoplodera proxima* (Say), *Megacyllene caryae* (Gahan), *Elaphidionoides incertus* (Newm.), *E. parallelus* (Newm.), *E. villosus* (F.), *Elaphidion* sp. in *Quercus*, *Graphisurus* sp., *Melandrya striata* Say, *Obrium rufulum* Gahan, *Pachyta lamed* (L.), *Pissodes approximatus* Hopk., *Stenocorus lineatus* (Oliv.), *Ramosia tipuliformis* (Clerck), *Saperda discoidea* (F.), *Synchroa punctata* Newm., *Xylotrechus annosus* (Say).
- Pimpla irritator*** (Fabricius) (transf. by Townes and Townes, 1960, pp. 113, 114, 137).
- messor perlongus** (Cresson), changed status. Hosts: *Saperda calcarata* Say, *S. concolor* Lec., *S. moesta* Lec. *Dolichomitus messor messor* (Grav.) is European.
- Pimpla perlongus*** (Cresson) (transf. and reduced to subsp. by Townes and Townes, 1960, pp. 132, 134).
- Pimpla gigas*** (Walsh) (syn. by Townes and Townes, 1960, p. 134).
- \***messor sparsus** Townes. Yukon to Calif., east to Wyo., Colo., N. Mex. Hosts: *Buprestis confluenta* Say, *Saperda moesta* LeC., *S. m. tulari* F. & J., *S. sp.*, *Xylocrius agassizi* (LeC.).
- Dolichomitus messor sparsus*** Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 132, 133. ♂, ♀.
- \***populneus** (Ratzeburg). Ont., Sask., Colo., Wash.; Europe. Hosts: wood borer in *Populus* sp.; *Saperda populnea* (L.) in Germany.
- Ephialtes populneus*** Ratzeburg, 1848. Die Ichn. d. Forstins., v. 2, p. 100. ♂, ♀.
- ptelas** (Say). Europe.
- Pimpla ptelas*** (Say) (transf. by Townes and Townes, 1960, p. 150).
- pygmaeus** (Walsh). N. H. to N. C. west to B. C. and Calif. Host: ?*Plectrura spinicauda* Mann.
- Pimpla pygmaeus*** (Walsh) (transf. by Townes and Townes, 1960, pp. 113, 115, 149).
- \***sericeus** (Hartig). Transcont. in Canad. Zone; Europe. Hosts: buprestid borer in *Picea*, ?*Tetropium cinnamopterum* Kby.
- Closterocerus sericeus*** Hartig, 1847. Ber. Naturw. Ver. Harzes f. Jahre 1846/7, col. 18. ♂.
- \***taeniatus** Townes. Calif., Ariz. Hosts: *Chrysobothris edwardsii* Horn.
- Dolichomitus taeniatus*** Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 113, 114, 118. ♂, ♀.
- terebrans nubilipennis** (Viereck), changed status. Hosts: *Pissodes dubius* Rand., *P. engelmanni* Hopk., *P. fasciatus* LeC., *P. fraseri* Hopk., *P. rotundatus* LeC., *Pissodes* spp., *Scolytus* sp. Typical *terebrans* (Ratz.) occurs in Europe.
- Calliephialtes nubilipennis*** (Viereck) (transf. and reduced to subsp. by Townes and Townes, 1960, p. 122).
- \***tuberculatus tuberculatus** (Fourcroy). Alaska, B. C. to Que. and N. B., south to N. Y. and Oreg. Europe. Hosts: *Hylobius pinicola* (Coup.); *Monochamus* sp., *M. scutellatus* (Say). Another subsp. occurs in Japan.
- Ichneumon tuberculatus*** Fourcroy, 1785. Ent. Parisiensis, p. 385. ♀.
- \***vitticus** Townes. Que. and Ont. south to Pa., west to Man., Wis., Kans.
- Dolichomitus vitticus*** Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 114, 116. ♂, ♀.

**\*Genus ACROPIMPLA Townes**

**\*Selenaspis** Roman, 1910. Ent. Tidskr. 31 (2-3): 191. Preocc.

Type: *Hemipimpla alboscuteellaris* Szépligeti. Orig. desig.

**Acropimpla** Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 9, 159.

Type: *Hemipimpla alboscuteellaris* Szépligeti. By autotypy.

Townes designated *Charitopimpla leucostoma* Cameron as type-species of *Acropimpla* but said "the unavailable name *Selenaspis* applies to the same zoological group as *Acropimpla*." Art. 67 (i), Internatl. Code of Zool. Nomenclature, p. 65 says "... Type-fixation for either applies also to the other, despite any statement to the contrary."

Place on p. 189 before *Iseropus* Foerster.

**alboricta** (Cresson).

*Scambus alboricta* (Cresson) (transf. by Townes and Townes, 1960, pp. 161, 162).

**\*pronexus** Townes. N. B., Que., Ont., N. H., N. Y., Wyo., B. C., N. M. Hosts: *Glypta fumiferanae* (Vier.), *Choristoneura fumiferana* (Clem.) prob. secondary.

**Acropimpla pronexus** Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 161. ♂, ♀.

**Genus ISEROPUS Foerster, pp. 189-190, Sup. 1, p. 37**

**\*Cnemopimpla** Cameron, 1903. Ent. 36: 159 (syn. *teste* Townes, Townes, and Gupta, 1961, p. 19).

Type: *Cnemopimpla pilosa* Cameron. By monotypy.

**californiensis** Cushman. Wash., Colo. Hosts: *Malacosoma* sp., *M. fragile* (Stretch).

**coelebs** (Walsh). Hosts: *Dasychira plagiata* (Wlkr.); *Hemerocampa* sp., *Malacosoma disstria* Hbn., *Metallus rohweri* MacG., *Olene* sp.

**stercorator orgyiae** (Ashmead), changed status. Transcont. in Canad. and Transit. Zones. Hosts: *Choristoneura rosaceana* (Harr.), *Ctenucha virginica* (Charp.), *Halisidota* sp., *Hemerocampa* sp., *H. leucostigma* (J. E. Sm.), *H. vetusta* (Bdvl.), *Malacosoma* sp., *M. disstria* Hbn., *Simyra henrici* (Grt.), "pine tussock".

**Iseropus orgyiae** (Ashmead) (reduced to subsp. rank by Townes and Townes, 1960, p. 168).

**Iseropus stercorator brunneifrons** [sic.] (Viereck) (syn. by Townes and Townes, 1960, p. 168). Change to original spelling: **bruneifrons**.

**Genus TROMATOBIA Foerster, p. 190**

In type citation delete "Desig. by Viereck, 1914" and add: Desig. by Ashmead, 1900.

**\*Austropimpla** Brèthes, 1913. Anal. Mus. Nac. Hist. Nat. Buenos Aires 24: 40.

Type: *Austropimpla huebrichi* Brèthes. Orig. desig.

Syn. by DeSantis, 1956. La Plata Univ. Nac. Inst. Mus. Notas (Zool.) 18 (165): 305.

**lateralis** (Cresson). Syn. of *notator* (Fabricius).

**\*notator** (Fabricius). Fla., N. C.

*Pimpla notator* Fabricius, 1804. Systema piezatorum, p. 115. ♀.

**Tromatobia lateralis** (Cresson) (syn. by Townes and Townes, 1960, p. 186).

**\*Ephialtes cressoni** Dewitz, 1881. Berliner Ent. Ztschr. 25: 205. ♀. (Syn. by Townes and Townes, 1960, p. 186.)

**\*ovivora ovivora** (Boheman). Transcont. in Huds., Canad., Transit. and U. Austral. Zones. Hosts: *Araneus diadema* L., *A. solitaria* (Emrtn.), *Argiope avara* Thor., *A. argentata* (F.), *Cyrtophora californiensis* Keys.

***Pimpla ovivora*** Boheman, 1821. Svenska Vetensk.-Akad. Handl. (ser. 3) 9: 336. ♂, ♀.

***Tromatobia ovivora scriptifrons*** (Cresson) (syn. by Townes and Townes, 1960, p. 179).

\****Pimpla (Iseropus) viduiformis*** Viereck, 1912. U. S. Natl. Mus. Proc. 43 (1942): 591. ♂. (See Catalog, p. 190, in discussion of *ovivora scriptifrons* (Cresson).)

Biology: Nielsen, 1923. Ent. Medd. 14: 194-195.

***ovivora rufopectus*** (Cresson), changed status. Ont., Mich., Kans., Tex. Hosts: Egg sacs of: *Argiope trifasciata* (Forskål), "*Epeira*" sp.

***Tromatobia rufopectus*** (Cresson) (reduced to subsp. rank to Townes and Townes, 1960, p. 183).

***ovivora scriptifrons*** (Cresson). Syn. of ***ovivora ovivora*** (Boheman).

***rufopectus*** (Cresson). A subsp. of ***ovivora*** (Boheman).

***variabilis*** (Holmgren).

\****Polysphinctus forsiusi*** Hellén, 1915. Acta Soc. Fauna Flora Fennica 40: 45. ♂, ♀. (Syn., *teste* Townes and Townes, 1960, p. 176.)

***zonata*** (Davis).

Taxonomy: Townes and Townes, 1960, pp. 175, 185.

#### Genus ZAGLYPTUS Foerster, p. 191

\****arizonicus*** Townes. Ariz. (Parker Creek, Sierra Ancha).

***Zaglyptus arizonicus*** Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 189, 192. ♀.

\****pictilis*** Townes. Fla., Ala., Ga., ?Cuba.

***Zaglyptus pictilis*** Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 189, 194. ♂, ♀.

***varipes incompletus*** (Cresson). Transcont. in Huds. Zone.

#### Genus CLISTOPYGA Gravenhorst, p. 192

\****Hymenomacropyga*** Uchida, 1941. Ins. Matsumurana 15 (3): 116.

Type: ***Hymenomacropyga latifrontalis*** Uchida. Orig. design. and by monotypy.

Transf. from tribe ***Polysphinctini***, p. 192 (*teste* Townes and Townes, 1960, p. 195).

Biology: Nielsen, 1929, Ent. Meddel. 16: 366-368.

\****alutaria*** Townes. Ont., Del., N. C., Fla., Wis.

***Clistopyga alutaria*** Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 196, 200. ♂, ♀.

***atrata*** Cushman. Host: ?*Calopus angustus* LeC. in *Pinus murrayana* (in gallery of).

***canadensis*** Provancher. Canad. Zone, Atlantic to Rocky Mts. Hosts: ?*Leptochilus rufinodis* (Cress.); ?*Malacosoma disstria* Hbn.; ?lep. budworm on *Picea*.

***maculifrons*** Cushman. Mass., N. Y., N. C., Ohio, Mich., Wis., Minn.

***manni*** Cushman. B. C., Calif., N. Mex. Hosts: *Agelenopsis* sp.: ?salticid spider.

***nigrifrons*** Cushman. B. C. Host: spider nest.

***pulchripicta*** Ashmead. Syn. of ***recurva*** (Say).

***recurva*** (Say).

***Clistopyga pulchripicta*** Ashmead (syn. by Townes and Townes, 1960, p. 204).

#### Genus Pseudorhyssa Merrill, p. 191

Transf. to ***Theroniini***, p. 202.

Genus *Delomerista* Foerster, p. 191Transf. to **Theroniini**, p. 202.Genus **PERITHOUS** Holmgren, p. 191**divinator** (Rossi). Que., Conn., Pa., Mich., Wis. Hosts: Pemphredonini in stem of *Rosa*, *Pemphredon lethifer* Shuckard.

Biology: Thomas, 1964. Mich. Acad. Sci. Arts Letters, Papers 49: 199-201.

**mediator neomexicanus** (Viereck), changed status. Va., Oreg., Calif. Host: *Pemphredon errans* Roh. *P. mediator mediator* (Fab.) is European.*Perithous pleuralis* Cresson of Catalog, in part. **P. neomexicana** removed from syn. and made subsp. (*teste* Townes and Townes, 1960, p. 213); change p. 87 to p. 88 in cit. of **neomexicana**.**mediator pleuralis** (Cresson), changed status. Alaska, Sask. and east of Rocky Mts. Host: *Pemphredon harbecki* Roh. (?).*Perithous pleuralis* Cresson (reduced to subsp. rank by Townes and Townes, 1960, p. 211). N. B., **neomexicana** Viereck removed from syn. and placed as subsp. of **mediator**.

Biology: Krombein, 1960. Ent. News 71: 31.

**pleuralis** (Cresson). A subsp. of **mediator** (Fabricius); (**neomexicana** Viereck removed from syn. and made subsp. of **mediator** (Fabricius)).

## Tribe POLYSPHINCTINI

Biology: Nielsen, Ent. Meddel. v. 14, pp. 137-205 (1923); v. 16, pp. 152-155 (1928); pp. 366-368 (1929); v. 19, pp. 192-215 (1935); v. 20, pp. 25-28 (1937).

Taxonomy: Townes and Townes, 1960. U. S. Natl. Mus. Bul. 216 (Pt. 2): 216-279 (keys to genera and species incl.).

Genus *Clistopyga* Gravenhorst, p. 192Transf. to **Ephialtini** and place after **Zaglyptus** Foerster, p. 191.Genus **ACRODACTYLA** Haliday, p. 192**Colpomeria** Holmgren. Change type desig to: (**Colpomeria laevigata** Holmgren) = **quadrisculpta** Gravenhorst, (*teste* Townes and Townes, 1960, p. 230).**\*degener** (Haliday). Transcont. in Huds., Canad., and Transit. Zones; Europe.**Cryptus (Acrodactyla) degener** Haliday, 1838. Ann. Nat. Hist. 2(8): 117. ♂, ♀.**Symphylus hadrodactylus** Foerster, 1871. Naturh. Ver. Rheinlande Verh. 28: 106. ♂, ♀.

Taxonomy: Townes and Townes, 1960, pp. 231, 233.

**\*jubata** Townes. Yukon, Wash., Colo.**Acrodactyla jubata** Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 231. ♀.**\*ocellata** Townes. Que. to N. C., Mich. Host: *Linyphia phrygiana* C.L.K.**Acrodactyla ocellata** Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 231, 232. ♂, ♀.**\*quadrisculpta** (Gravenhorst). Transcont. in Huds., Canad. and Transit. Zones; Eurasia. Host: *Tetragnatha laboriosa* Hentz.**Ichneumon quadrisculptus** Gravenhorst, 1820. Mem. Accad. Sci. Torino 24: 378. ♂.**Colpomeria laevigata** Holmgren, 1859. Ofvers. Svenska Vetensk. Akad. Forh. 16: 127.



***Colpomeria kincaidii*** (Ashmead) (syn. by Townes and Townes, 1960, p. 235).

Genus ***Colpomeria*** Holmgren, p. 192

A syn. of ***Acerodactyla*** Haliday, p. 192.

***kincaidii*** (Ashmead). Syn. of ***Acerodactyla quadrisculpta*** (Gravenhorst), p. 192.

\*Genus **ERUGA** Townes

***Eruga*** Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2) : 220, 238.

Type: ***Eruga lineata*** Townes. Orig. desig.

Place in Polysphinctini after ***Acerodactyla*** Haliday, p. 192.

\****atrata*** Townes. Oreg., Ariz., Mex.

***Eruga atrata*** Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2) : p. 238. ♂, ♀.

\****lineata*** Townes. Que., Maine, N. Y., N. C., Minn., B. C., Wash., Oreg., Calif., Ariz.

***Eruga lineata*** Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2) : 238, 239. ♂, ♀.

\****rufa*** Townes. Md., S. C.

***Eruga rufa*** Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2) : 238, 240. ♂, ♀.

Genus ***Laufeia*** Tosquinet, p. 192

Syn. of ***Dreisbachia*** Townes.

\*Genus **DREISBACHIA** Townes

***Laufeia*** Tosquinet, 1903. (Preocc. by Simon, 1889.)

***Dreisbachia*** Townes, 1962. Ent. Soc. Wash. Proc. 64 (1) : 38. N. name.

\****navajo*** (Townes). Ariz.; Honduras. Host: ?*Pisaurina* sp.

***Laufeia navajo*** Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2) : 221, 223, ♂, ♀. (Transf. by Townes, 1962, *loc. cit. supra*, p. 38.)

***slossonae*** (Davis). Transcont. in Canad. Zone. (Transf. by Townes, 1962, *loc. cit. supra*, p. 38.)

Genus **SCHIZOPYGA** Gravenhorst, pp. 192-193

***frigida*** Cresson. Europe.

\****Schizopyga atra*** Kriechbaumer, 1887. Ent. Nachr. 14: 87. ♂, ♀. (Syn. by Townes and Townes, 1960, p. 225.)

***pulchra*** Walley. Ont. to N. C. west to B. C.

\*Genus **PIOGASTER** Perkins

***Piogaster*** Perkins, 1958. Entomologist 91: 263.

Type: \****Piogaster rugosa*** Perkins. Orig. desig.

Place in Polysphinctini before ***Polysphincta*** Gravenhorst, p. 193.

\****maculata*** Townes. Calif. (Crane Flat, Yosemite Park).

***Piogaster maculata*** Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2) : 241. ♀.

Genus **POLYSPHINCTA** Gravenhorst, p. 193, Sup. 1, p. 37

***albipes*** Cresson.

Taxonomy: Hubbard, 1885. Ins. Affecting the Orange, p. 153.

**burgessii** Cresson.

Taxonomy: Townes and Townes, 1960, pp. 246, 247.

**\*eboripes** Townes. N. Y. to S. C., Kans.

**Polysphincta eboripes** Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 246, 254. ♂, ♀.

**koebelei** Howard. Calif., Wash. Host: *Epeira foliata* (Four.) or *E. undata* (Oliv.).**limata** Cresson. Transcont. in Transit. Zone. Remove **bruneti** Provancher, a valid subsp., and **elongata** Cushman as its syn., from syn. of **limata** Cresson, and place as subsp. of **tuberosa** (Gravenhorst).**pallipes** Holmgren. Delete from Catalog; in s. str. Palearc. subsp. (*teste* Townes and Townes, 1960, p. 259).

**Polysphincta (Zatypota) strigis** Howard. Transf. to **\*Sinarachna** Townes as valid subsp. of **pallipes** (Holmgren).

**tuberosa bruneti** Provancher, changed status. Transcont. in Huds. and Canad. Zones. *P. tuberosa tuberosa* (Gravenhorst) occurs in Europe.

**Polysphincta limata** Cresson of Catalog in part. Remove **bruneti** with its syn. **elongata** Cushman, and place as subsp. of **tuberosa** (Gravenhorst) (*teste* Townes and Townes, 1960, p. 251).

**\*Genus SINARACHNA** Townes

**Sinarachna** Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 219, 258.

Type: **Polysphincta pallipes** Holmgren. Orig. desig.

Place in **Polysphinctini**, p. 193, after **Polysphincta** Gravenhorst.

**\*anomala** (Holmgren). N. S. to Fla., west to Alaska and Calif.; Mexico, Europe, Palestine. Hosts: *Dictyna sublata* (Hentz).

**Polysphincta anomala** Holmgren, 1860. Svenska Vetensk.-Akad. Handl. (N. F.) v. 3 (Pt. 10): 34. ♀.

**Polysphincta dictynae** Howard (transf. with its syn. **minuta** (Davis) from **Zatypota** Foerster, p. 194, by Townes and Townes, 1960, p. 261).

**pallipes strigis** (Howard), changed status. Transcont. in Transit., Canad., and Huds. Zones. *S. pallipes pallipes* (Holmgren) occurs in Europe. Host: *Epeira foliata* (Four.).

**Polysphincta pallipes** Holmgren (transf. to **Sinarachna** Townes, and **strigis** made a subsp. of **pallipes**, *teste* Townes and Townes, 1960, p. 260).

**Genus Hymenoepimecis** Viereck, p. 193

Remove from Catalog. No nearctic species.

**wiltii** (Cresson). Transf. to **\*Acrotaphus** Townes.**\*Genus ACROTAPHUS** Townes

**Acrotaphus** Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 219, 256.

Type: **Epimecis wiltii** Cresson. Orig. desig.

Place in **Polysphinctini** on page 193 before **Oxyrrhexis** Foerster.

**wiltii** (Cresson). L. Austral. Zone. Transf. from **Hymenoepimecis** Viereck (*teste* Townes and Townes, 1960, pp. 256, 267).**Genus OXYRRHEXIS** Foerster, p. 193

In type citation after "Included" add: and designated.

**carbonator texana** (Cresson).

Taxonomy: Cushman, 1920. U. S. Natl. Mus. Proc. 58: 22.—Townes and Townes, 1960. U. S. Natl. Mus. Bul. 216 (Pt. 2): 242, 243-45. (cocoon descr.).

Genus **ZATYPOTA** Foerster, p. 194

\**Lycorinopsis* Haupt, 1954. Deut. Ent. Ztschr. (N.F.) 1 (H. 1/11): 110.  
(Syn. by Townes and Townes, 1960, p. 262.)

Type: *Lycorinopsis rhombifer* Haupt. Orig. desig.

*alborhombarta* (Davis). Ariz., Mex.

\**arizonicus* Townes. Ariz. (Santa Rita Mts.).

*Zatypota arizonicus* Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 264, 271. ♂.

*bohemani* (Holmgren). B. C.

\**cingulata* Townes. Ont., N. B., N. S. south to S. C., Mich., Wis., Colo.

*Zatypota cingulata* Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 264, 270. ♂.

\**crassipes* Townes. S. C. (Greenville).

*Zatypota crassipes* Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 265, 278. ♀.

*dictynae* (Howard). Transf. to \**Sinarachna* Townes as syn. of *anomala* (Holmgren).

\**exilis* Townes. N. H., Que.

*Zatypota exilis* Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 264, 269. ♀.

\**favosa* Townes. Calif. (Fish Camp).

*Zatypota favosa* Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 264, 269. ♀.

\**luteipes* Townes. Ont., Maine, Mass., N. C.

*Zatypota luteipes* Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 265, 277. ♂, ♀.

*nigriceps* (Walsh).

?*Polysphincta nigrita* Walsh. Questionable syn. (*teste* Townes and Townes, 1960, p. 273, 274).

*parva* (Cresson). Que., Conn., N. C., Mich., Wis.

\**patellata* Townes. B. C. to Calif.

*Zatypota patellata* Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 264, 268. ♂, ♀.

*percontatoria* (Müller). Huds. Zone.

\**Polysphincta gracilis* Holmgren, 1860. Svenska Vetensk.-Akad. Handl. (N.F.) 3 (Pt. 10): 32. ♂, ♀. (Syn. by Townes and Townes, 1960, p. 275.)

\**Polysphincta scutellaris* Holmgren, 1860, *Op. cit. supra*: 33. ♂. (Syn. by Townes and Townes, 1960, p. 275.)

\**walleyi* Townes. Que., Ont., Maine, Mass., Mich.

*Zatypota walleyi* Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 264, 272. ♂, ♀.

Tribe **PIMPLINI**

(= *Ephialtini* of Catalog)

Genus **PIMPLA** Fabricius, Sup. 1, p. 38

(= *Coccygomimus* Saussure of Catalog, pp. 194–196)

\**Habropimpla* Cameron, 1900. Manchester Lit. Phil. Soc. Mem. Proc. 44. Pt. 5(15): 96.

Type: *Habropimpla bilineata* Cameron. By monotypy.

\**Phytodiaetoides* Morley, 1913. Fauna Brit. India Hym. v. 3, pp. 216, 221.

Type: (*Phytodiaetoides megaera* Morley) = *flavipalpis* (Cameron). Orig. desig. and by monotypy.

*Liotheronia* Enderlein, 1919. Transf. from syn. of *Theronia* Holmgren, Cat. p. 202 (*teste* Townes and Townes, 1960, p. 311).

\**Dihyboplax* Enderlein, 1919. Gesell. Naturf. Freunde Sitzber, p. 148.

Type: *Dihyboplax flavipennis* Enderlein. By orig. desig.

\**Neogabunia* Brèthes, 1927. Ent. Mitt., 16(4) : 322.

Type: *Neogabunia paulistana* Brèthes. By monotypy.

\**Pimpla* subg. *Oxypimpla* Noskiewicz and Chudoba, 1951. Polskie Pismo Ent. 21 (1-4) : 42.

Type: *Pimpla turionellae* Linnaeus. By monotypy.

Generic syn. *teste* Townes and Townes, 1960, p. 311.

*aequalis* Provancher. Host: *Polychrosis vitiana* (Clem.).

*aethiops* Curtis. Remove from Catalog. Spm. listed from Greenland misdet.

\**annulipes* Brullé. N. S. to Fla. west to Ont. and Tex. Hosts: *Acrobasis caryae* (Horn), *Carpocapsa pomonella* (L.), *Grapholitha molesta* (Busck), *Gretchena bolliana* (Sling.), *Laspeyresia nigricana* (Steph.), *Rhyacionia buoliana* (Schiff.), *Salebria tenebrosella* (Hulst.), *Synanthedon pictipes* (G. & R.), *Thamnosphesia pyri* (Harr.).

*Pimpla annulipes* Brullé, 1946. In Lepeletier, Hist. Nat. Ins. Hym., v.4, p. 102. ♀.

*Coccygomimus inflatus* (Townes) (syn. by Townes and Townes, 1960, p. 346).

*aquilonia aquilonia* Cresson, changed status. Newfoundland to Tenn. and N. C. west to Wis., Minn., Alta., Alaska. Hosts: *Coleophora salmani* Heinr., *Lambdina fiscellaria* (Guen.), *Psilocorsis faginella* Chamb.

*Itoplectis exareolatus* Ashmead. Remove from syn. and place as valid subsp. (*teste* Townes and Townes, 1960, p. 324).

*Pimpla yakutatensis* Ashmead. Remove and place as syn. of subsp. *exareolatus* (Ashmead).

*aquilonia exareolata* (Ashmead). Alaska, B. C. to Sask., south to Calif., N. Mex. (Mts.), and Colo.

*Pimpla yakutatensis* Ashmead. Transf. from syn. of *aquilonia* Cresson (*teste* Townes and Townes, 1960, p. 324).

\**dimidiata* (Townes), n. comb. Tex. (Hempstead).

*Coccygomimus dimidiatus* Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2) : 313, 350. ♂.

*ellopieae* Harrington. N. Mex., Mex. Host: *Eucaterva variaria* Grote.

\**hesperus* (Townes) n. comb. Alaska, Oreg., Calif., Ariz., Nev., N. Mex., Utah, Colo., Neb., S. Dak. Host: *Rhyacionia frustrana bushnellii* (Busck), *Anarsia lineatella* Zell., *Udea rubigalis* (Guen.).

*Coccygomimus hesperus* Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2) : 314, 315, 338. ♂, ♀.

*longigenalis* (Cushman). A subsp. of *sodalis* Ruthe.

*maura* Cresson. Hosts: *Hemerocampa leucostigma* (J. E. Sm.), *Orgyia* sp.

*nuda* Townes. Ont., Que., N. S. to Va. west to Mich. and Minn.

*pedalis* Cresson. Alaska, N.W.T., N. Mex., Mex. Hosts: *Acronicta americana* (Harr.), A. sp., *Ctenucha virginica* (Charp.), *Dasychira plagiata* (Wlkr.), *Epargyreus clarus* (Cram.), *Halisidota caryae* (Harr.), *Lambdina fiscellaria somnaria* (Hulst), *Leucania linia* Guen., *Orgyia antiqua badia* Hy. Edw., *Sciaphyla duplex* (Wlsh.), *Xylotrechus* sp.

Biology: Finlayson, 1960. Canad. Ent. 92 (12) : 925.

*puncipes* Cresson. Tex., Mexico, South America, and Hawaii.

\**Pimpla feralis* Cresson, 1873. Acad. Nat. Sci. Phila. Proc. 25 : 399. ♂.

**sanguinipes erythropus** Viereck. B. C. to Calif., Idaho, Utah, ARIZ., N. Mex., Mexico. Hosts: *Carpocapsa pomonella* (L.), *Diacrisia virginica* (F.), *Hemerocampa vetusta* (Bdvl.), *Hemileuca* sp., *Malacosoma* sp., *M. fragile* (Stretch), *Prochoerodes forficaria catenulata* Grote, *Tholeria reversalis* (Guen.), *Zophodia convolutella* (Hbn.).

**Coccygomimus sanguinipes** (Cresson) of Catalog, in part. **P. erythropus** Viereck removed from syn. and made subsp. of **sanguinipes** Cresson (*teste* Townes and Townes, 1960, p. 336).

**sanguinipes sanguinipes** Cresson, changed status. Tex., Mexico. Host: *Alabama argillacea* (Hbn.).

**Pimpla (Pimpla) erythropus** Viereck. Removed from syn. and made subsp. of **sanguinipes**.

**sodalis longigenalis** (Cushman), changed status. Calif., Colo.

**Coccygomimus longigenalis** (Cushman). Reduced to subsp. rank (*teste* Townes and Townes, 1960, pp. 328, 330).

**sodalis sodalis** Ruthe. Changed status. Alaska, Yukon, N.W.T., Man., Que., Iceland, Greenland, Europe.

**Coccygomimus sodalis** (Ruthe) reduced to subsp. rank (*teste* Townes and Townes, 1960, p. 328).

**\*stricklandi** (Townes), n. comb. Alta., Sask., Ont., Que., Mich.

**Coccygomimus stricklandi** Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 314, 315, 340. ♂, ♀.

**tenuicornis** Cresson. Alta., B. C. Host: *Semiothisa* sp.

**\*varians** (Townes) n. comb. Rocky Mts. to Pacific Ocean in Canad. and Transit. Zones. Host: *Carpocapsa pomonella* (L.).

**Coccygomimus varians** Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 314, 333. ?♂, ♀.

#### Genus APECHTHIS Foerster, Sup. 1, p. 38

(= *Ephialtes* of Catalog, p. 196)

**Apechthis** Thomson. Add: "Emend." after bibliographic citation in Catalog. Delete type citation.

**\*Taiwatheronia** Sonan, 1936. Nat. Hist. Soc. Formosa, Trans. 26: 256. N. syn.

Type: (*Taiwatheronia mahasenae* Sonan) = *taiwana* Uchida. By orig. desig. and monotypy.

**\*Parapechthis** Blanchard, 1936. Anal. Soc. Cient. Argentina 122: 404. N. syn.

Type: *Parapechthis bazani* Blanchard. By orig. desig. and monotypy.

Taxonomy: Townes, 1957, Proc. Ent. Soc. Wash. 59 (3): 118-119; Townes and Townes, 1960, p. 302 (*Ephialtes* Schrank).

**annulicornis** (Cresson). Que., Ont., Alta., Nebr., Wis. Hosts: *Choristoneura fumiferana* (Clem.), *C. rosaceana* (Harr.).

**componotus** (Davis). Idaho, Calif. Host: *Hemerocampa pseudotsugata* McD.

**ontario** (Cresson). Ariz., Calif.

**pacificus** Cushman. B. C., Oreg.

**picticornis** (Cresson). Hosts: *Choristoneura conflictana* Wlkr., *C. rosaceana* (Harr.), *Sciaphila* sp.; geometrid; noctuid.

**\*Apechthis ornatus** Walley, 1929. Canad. Ent. 61(8): 190. ♂. (Syn. by Townes, 1940. Ent. Soc. Amer. Ann. 33(2): 313; Townes and Townes, 1960, p. 303.)

#### Genus ITOPLECTIS Foerster, pp. 196-198, Sup. 1, p. 38

Change type citation to: *Ichneumon scanicus* Villers. Desig. by Viereck, 1914 (*teste* Perkins, 1962, p. 433).

\**Exeristesoides* Uchida, 1928. Jour. Fac. Agr. Hokkaido Imp. Univ. 25 (Pt. 1): 37, 51. (Syn. by Townes, 1957. Ent. Soc. Wash. Proc. 59: 107.)

Type: (*Pimpla spectabilis* Matsumura) = *alternans spectabilis* (Matsumura). Orig. desig. and by monotypy.

*behrensi* (Cresson). "Western Calif. from Marin Co. southwards".

*clavicornis* (Thomson). Delete from Catalog, not in Nearctic region. Species considered this, is ?*fustiger* Townes (*teste* Townes and Townes, 1960, p. 299).

*conquisitor* (Say). B. C. Hosts: *Anisota rubicunda* F., *Choristoneura conflictana* Wlkr., *Dasychira plagiata* Wlkr.; *Dioryctria reniculella* (Grt.), *Epermenia cicutaella* Kft., *Exyra semicrocea* (Gn.), *Hyaloscotes pithopoera* (Dyar), *Nematocampa limbata*, (Haw.), *Oncideres cingulata* (Say), *Simyra henrici* (Grt.), *Sparganothis flavibasana* Fern., S. sp. on *Lonicera*, *Tortrix allenina* Fern., *T. cockerellana* Kft., *T. pallorana* Rbnsn., *Urbanus proteus* (L.), *Hypera postica* (Gyll.).

Biology: Leius, 1961. Canad. Ent. 93 (9): 771-780.—Arthur, 1963. Canad. Ent. 95 (10): 1086-1090 (also imm. stages).

*curticauda brevacus* Townes, changed status. Canad. Zone, Atlantic Ocean to Mont. Removed from syn. of *curticauda* (Kriechbaumer) and placed as valid subsp. (*teste* Townes and Townes, 1960, p. 301).

*curticauda curticauda* (Kriechbaumer), changed status. Delete from Catalog, p. 198. This subsp. is European. Remove *brevacus* Townes from syn. as a valid subsp.

*evetriae* Viereck. Transcont. in Canad. Zone. Hosts: *Barbara mappana* Free., B. sp., *Choristoneura fumiferana* (Clem.).

\**fustiger* Townes. Transcont. in Transit. Zone. Host: "Neuroptera".

*Itopectis fustiger* Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 282, 298. ♂, ♀.

*quadricingulatus* (Provancher). Hosts: *Croesia albicomana* (Clem.); *Dioryctria reniculella* (Grt.), *Eucercatia castella* Wlsm., *Galleria mellonella* F., *Malacosoma* sp., *M. disstria* Hbn., *Nepytia phantasmaria* (Stkr.), *Platyptilia* sp., *Taniva albolineana* (Kft.).

\**vesca* Townes. Alaska to Calif., Ariz., N. Mex., Colo., Maine, P.E.I. N. B., N. S. Hosts: *Acleris variana* (Fern.), *Colephora laricella* (Hbn.), *Recurvaria milleri* Busck.

*Itopectis vesca* Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 282, 297. ♂, ♀.

*viduata* (Gravenhorst). B. C., Alta., N.W.T., Sask., Wyo. Hosts: *Ancyliis comptana* (Frol.), *Malacosoma disstria* Hbn.

### Tribe NEOXORIDINI

(= *Poemeniini* of Catalog)

Genus *Diacritus* Foerster, p. 198

Remove from (*Poemeniini* of Catalog) = *Neoxoridini*, Sup. 1, p. 38, and place provisionally in *Microcleptinae* (= *Plectiscinae* of auctt.), on p. 342.

Genus *POEMENIA* Holmgren, Cat. p. 199, Sup. 1, p. 39

Revision: Habeck and Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 376-387.

*albipes* (Cresson). Alta.

*americana americana* (Cresson), changed status. N. S., Ont., N. H. Host: *Passaloeus mandibularis* (Cress.).

*Poemenia americana* (Cresson). Reduced to subsp. rank (*teste* Habeck and Townes, 1960. *In* Townes and Townes, p. 384).

\**americana* *nebulosa* Habeck and Townes. B. C. to Calif. east to Colo.; Ont. Hosts: *Laspeyresia toreuta* (Grt.), *Paratimia conicola* Fahr.

*Poemenia americana nebulosa* Habeck and Townes, 1960. *In* Townes and Townes, U. S. Natl. Mus. Bul. 216: 382 (key), 383. ♂, ♀.

\**pacifica* Habeck and Townes. Wash. to Calif. Host: Galls of *Disholcaspis truckeensis* (Ashm.).

*Poemenia pacifica* Habeck and Townes, 1960. *In* Townes and Townes, U. S. Natl. Mus. Bul. 216 (key), 385. ♂, ♀.

*thoracica* (Cresson). B. C. to Calif. east to Sask. and Wyo.

*Poemenia vancouveriensis* Provancher (syn. by Habeck and Townes, 1960. *In* Townes and Townes, p. 377).

*vancouveriensis* (Provancher). Syn. of *thoracica* (Cresson).

**Genus NEOXORIDES Clément, p. 199**

*borealis* (Cresson). Hosts: *Melanophila drummondi* (Kby.), *Laspeyresia toreuta* (Grt.).

*caryae* (Harrington). Ont., Que.

\**pilulus* Townes. Yukon to Oreg., east to N.W.T., Que., N. B., Colo., also N. Y., N. C., N. J. Host: buprestid.

*Neoxorides pilulus* Townes, 1960. *In* Townes and Townes, U. S. Natl. Mus. Bul. 216: 390. ♀, ♂.

*vittifrons* (Cresson). Transf. to \**Podoschistus* Townes.

**\*Genus PODOSCHISTUS Townes**

*Podoschistus* Townes, 1957. Ent. Soc. Wash. Proc. 59(1): 16 (key), 18.

Type: *Xorides vittifrons* Cresson. Orig. desig.

Place on p. 199 of Catalog after *Neoxorides* Clément.

\**vittifrons schlingeri* Townes. Utah (Mantua).

*Podoschistus vittifrons schlingeri* Townes, 1960. *In* Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 388. ♀.

*vittifrons vittifrons* (Cresson), changed status. Maine to Ga., west to Ont. and Tex. Host: buprestid.

*Neoxorides vittifrons* (Cresson). Transf. from *Neoxorides* and reduced to subsp. rank (*teste* Townes and Townes, 1960, pp. 388, 389).

**Tribe RHYSSINI**

**Genus RHYSSA Gravenhorst, p. 200, Sup. 1, p. 39**

*alaskensis* Ashmead. Wyo., Huds., Canad., and Transit. Zones.

*Rhyssa skinneri* Viereck. Change bibliographic reference page from 86 to 87.

*crevieri* (Provancher). N. S., N. B. Que., Ont., Maine, N. H., N. Y., N. J., N. C. (Mts.), Mich., Minn. Host: *Urocercus albicornis* (F.).

*Rhyssa lineolata* (Kirby) of Catalog, in part. Remove *crevieri* from syn. (*teste* Townes and Townes, 1960, p. 403).

*hoferi* Rohwer. Ariz., N. Mex.

\**howdenorum* Townes. Va., N. C., Nebr.

*Rhyssa howdenorum* Townes, 1960. *In* Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 396, 398. ♂, ♀.

*lineolata* (Kirby). Upper Austral. Zone. (Townes, 1960, p. 406 says "but there are no definite host records.")

*Rhyssa lineolata* (Kirby). Remove *crevieri* (Provancher), a valid sp., from syn. (*teste* Townes and Townes, 1960, p. 403).

*persuasoria* (Linnaeus). Host: *Sirex areolatus* (Cress.).

\***ponderosae** Townes. Calif.

*Rhyssa ponderosae* Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 397, 401. ♂, ♀.

**Genus RHYSELLA Rohwer, p. 200**

**humida** (Say). Wis., Minn., Iowa.

**nitida** (Cresson). Canad., Transit., Upper Austral. Zones. Que., Ont., Minn., Tenn., S. C., also B. C.

**\*Genus EPIRHYSSA Gresson**

*Epirhyssa* Cresson, 1865. Ent. Soc. Phila. Proc. 4: 39.

Type: *Epirhyssa speciosa* Cresson. Desig. by Viereck, 1914.

\**Rhyssonota* Kriechbaumer, 1890. Naturh. Hofmus. Wien. Ann. 5(3): 489. Syn. by Townes and Townes, 1960, p. 413.

Type: *Rhyssonota tristis* Kriechbaumer. By monotypy.

Place before *Megarhyssa* Ashmead, p. 200.

\***dietrichi** Townes. Ariz. (Mt. Lemmon).

*Epirhyssa dietrichi* Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 414. ♂, ♀.

**Genus MEGARHYSSA Ashmead, pp. 200-202**

Biology: Heatwole, Davis, Wenner, 1964. Amer. Midl. Nat. 71 (2): 374-381.

**atrata atrata** (Fabricius), changed status. Conn., Ont. south to Fla. and Tex.

*Megarhyssa atrata* (Fabricius). Reduced to subsp. rank (*teste* Porter, 1957. Ent. News 68: 206).

\***atrata lineata** Porter. N. S. to Ont. and south to Penna. Host: *Tremex columba* (L.).

*Megarhyssa atrata lineata* Porter, 1957. Ent. News 68: 206. ♀.

\***greenei floridana** Townes. Fla.

*Megarhyssa greenei floridana* Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 421, 424. ♀.

**greenei greenei** Viereck. Canad. to Upper Austral. Zone in east. No. America.

*Megarhyssa greenei* Viereck. Reduced to subsp. rank (*teste* Townes and Townes, 1960, p. 422).

**icterosticta** Michener. A subsp. of **macrurus** (Linnaeus).

**macrurus icterosticta** Michener, changed status. Ariz.

*Megarhyssa icterosticta* Michener. Reduced to subsp. rank (*teste* Townes and Townes, 1960, pp. 430, 435).

**macrurus lunator** (Fabricius). Canad., Transit. and Upper Austral. zones east of 100°W. Host: *Tremex columba* (L.).

*Megarhyssa macrurus macrurus* (Linnaeus) of Catalog, in part. Place **lunator**, and its syn. **histrion**, as valid subsp. of **macrurus** (*teste* Townes and Townes, 1960, p. 430).

**macrurus macrurus** (Linnaeus). Place **lunator**, and its syn. **histrion**, as valid subsp. of **macrurus**.

\**Ichneumon Georgicus* Megerle, 1802. Appendix ad catalogum insectorum, quae mense Novembris 1802 Vienne Austriae auctionis lege vendita fuere, p. 16 (Syn. *teste* Townes and Townes, 1960, p. 434).

*Megarhyssa macrurus phaeoptila* Michener (syn. by Townes and Townes, 1960, p. 434).

**macrurus phaeoptila** Michener. A syn. of **M. macrurus macrurus** (Linnaeus).

**nortoni nortoni** (Cresson). Ont., Mich., Vt.

**nortoni quebecensis** (Provancher). P.E.I., Tenn.



Tribe THERONIINI

Genus PSEUDORHYSSA Merrill, p. 191

Change type desig. to read as follows: Type: *Pseudorhyssa sternata* Merrill = *ruficoxis* (Kriechbaumer). Orig. desig.

Transf. from Tribe Ephialtini, p. 191 (*teste* Townes and Townes, 1960, p. 373). Place after heading Tribe Theroniini.

\**ruficoxis* (Kriechbaumer). Host: Siricidae in conifers; ? also Coleoptera.

"*Rhyssa approximator* (Fabricius)" of authors, not of Fabricius.

*Rhyssa approximator* var. *ruficoxis* Kriechbaumer 1887. Ent. Nachr. 13: 250. ♀.

*Pseudorhyssa sternata* Merrill (syn. by Townes and Townes, 1960, p. 373).

*sternata* Merrill. Syn. of *ruficoxis* (Kriechbaumer).

Genus THERONIA Holmgren, pp. 202-203

\**Poecilopimpla* Cameron, 1903. Straits Branch Roy. Asiatic. Soc. Jour. 39: 140. Syn. by Townes and Townes, 1960, p. 351.

Type: *Poecilopimpla lucida* Cameron. By monotypy.

*Liotheronia* Enderlein, 1919. Transf. to syn. of *Pimpla* Fabricius.

*atalantae* (Poda). Delete from Catalog. Place *fulvescens* (Cresson), and its syns. *rufescens* Taylor, *fulvescens* var. *mellipennis* Viereck and *atalantae* var. *americana* Krieger, as a subsp. of *atalantae*.

*atalantae fulvescens* Cresson, changed status. *T. atalantae atalantae* (Poda) occurs in Europe. Host: *Dasychira plagiata* (Wlkr.).

*Theronia atalantae* (Poda) of Catalog. Remove *atalantae* (Poda) from syn., and place *fulvescens* as valid subsp. of *atalantae* (*teste* Townes and Townes, 1960, p. 354).

*bicincta* (Cresson). Delete from Catalog; occurs only in Cuba (*teste* Townes and Townes, 1960, p. 362).

\**bicincta floridana* Townes. Fla., Ga. Host: *Tromatobia rufopectus* (Cress.). Another subsp., *bicincta bicincta* (Cresson), occurs in Cuba.

*Theronia bicincta floridana* Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216: 361, 362. ♂, ♀.

*hilaris* (Say). Host: *Heterocampa guttivitta* (Wlkr.).

*septemtrionalis* (Krieger). Fla., Ohio, Okla.

Genus DELOMERISTA Foerster, p. 191

Change desig. of type species to: Incl. and desig. by Schmiedeknecht, 1888.

Place in tribe Theroniini, p. 203.

\**borealis* Walkley. Alaska, Yukon, N.W.T., Que., Colo.

*Delomerista borealis* Walkley, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 365, 370. ♀.

\**gelida* Walkley. Alaska, N.W.T., B. C. to Que., N. Y., Pa., Colo., Ariz., Calif.

*Delomerista gelida* Walkley, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 365, 366. ♀.

\**japonica diprionis* Cushman, n. status. Alaska and B. C. to Calif. (Mts.) east to N. W. T., N. S. and N.Y., N C. (Mts.). *D. japonica japonica* occurs in Japan. Hosts: *Diprion frutetorum* (F.), *Neodiprion* spp. Taxonomy: Walkley, 1960, in Townes and Townes, pp. 367-368 (as syn. of *japonica*).

Biology: Finlayson, 1960. Canad. Ent. 92(1): 25-26 (as *diprionis*).

\**lepteces* Walkley. Alaska, Que., Colo.

*Delomerista lepteces* Walkley, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 365, 368. ♀.

**novita** (Cresson). Hosts: *Macremphytus* sp.; sawfly larva in elder stem; ? *Mononychus vulpeculus* (F.); *Acrobasis rubrifasciella* Pack.; ? *Exartema olivaceanum* Riley; ? *Eublemma minima* (Guen.).

\***pfankuchi** (Brauns). ? W. Va., Europe.

[*Pimpla*] (*Delomerista*) **Pfankuchi** Brauns, 1905. Ztschr. f. Hym. Dipt. 5: 131. ♀.

**texana** (Cresson). Alaska, N.W.T., Que., Maine, N. H.; Europe.

\**Pimpla laevifrons* (!) Thomson, 1877. Opuscula Ent. 8: 750. ♂, ♀.

### Tribe LABENINI

Genus **LABENA** Cresson, pp. 203-204, Sup. 1, p. 39

\***Microtritus** Kriechbaumer, 1889. Ent. Nachr. 15: 307.

Type: *Microtritus apicalis* Kriechbaumer. By monotypy.

\***Neonotus** Parrott, 1955 (1954). Linn. Soc. N. S. Wales, Proc. 79 (5-6): 230.

Type: *Neonotus chadwickii* Parrot. By orig. desig. and monotypy.

(Syn. by Townes and Townes, 1960, p. 531.)

\***grallator balteata** Townes. Tex. (nr. Presidio). Host: Tunnels in *Lycium berlandieri*.

**Labena grallator balteata** Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 532, 536. ♀, ♂.

**grallator grallator** (Say). Changed status. Ont. and Conn. to Fla., west to Kans., Tex., also Colo. Hosts: *Chrysobothris tranquebarica* Gmel., *Chion* sp., *Saperda puncticollis* Say, *Thrincopyge alacris* Lec.

**Labena grallator** (Say). (Reduced to subsp. rank by Townes and Townes, 1960, pp. 532-533.)

\***grallator lutea** Townes. Calif. (Needles).

**Labena grallator lutea** Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 532, 536. ♂.

\***grallator ochreata** Townes. Ariz.

**Labena grallator ochreata** Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 532, 535. ♂, ♀.

\***grallator xutha** Townes. N. Mex., Colo.

**Labena grallator xutha** Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 532, 535. ♂, ♀.

**tinctipennis** Rohwer. B. C. to Calif., Ariz.

Genus **GROTEA** Cresson, p. 204

Taxonomy: Townes and Townes, 1960, p. 537 (Tribe Labiini).

**anguina** Cresson. Colo., Ariz.

**californica** Cresson. B. C., Wash., Idaho, Nev., Ariz.

### Tribe XORIDINI

Genus **XORIDES** Latreille, pp. 204-206, Sup. 1, p. 39

**Gonophonus** Foerster. Remove from syn. A valid subg. of **Xorides** (teste Townes and Townes, 1960, p. 494). Palearc. Oriental.

**Moerophora** Foerster. Remove from syn. A valid subg. of **Xorides** (teste Townes and Townes, 1960, p. 495). Palearc.

**Perissocerus** Smith. Trans. to syn. of subg. **Periceros** Schulz *infra*.

**Cyanoxorides** Cameron. Remove from syn. A valid subg. of **Xorides** (teste Townes and Townes, 1960, p. 494). Oriental.

**Spiloxorides** Cameron. Remove from syn. of **Xorides**. A syn. of subg. **Cyanoxorides** Cameron, *supra*.

**Macrosterotrichus** Kokujev. Remove from syn. of **Xorides**. A syn. of subg. **Moerophora** Foerster, *supra*.

*Caenostoma* Cameron. Remove from syn. of *Xorides*. A syn. of subg. *Gonophonus* Foerster, *supra*.

*Periceros* Schulz. Remove from syn. A valid subg. of *Xorides* (*teste* Townes and Townes, 1960, p. 501). Neotrop.

*Ahyborhyssa* Enderlein. Remove from syn. of *Xorides*. Syn. of subg. \**Epixorides* Smith (*teste* Townes and Townes, 1960, p. 494). Oriental.

*Lavaudenia* Seyrig. Remove from syn. of *Xorides*. Syn. of subg. \**Gonio-prymnus* Cameron (*teste* Townes and Townes, 1960, p. 496). Ethiop.

\**XORIDES* subgenus *EXOMUS* Townes

*Xorides* subg. *Exomus* Townes, 1960. *In* Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 491, 496.

Type: *Anomalon humeralis* Say. Orig. desig.

Place on p. 204 as first subgenus under *Xorides* Latreille.

\**humeralis chiricensis* Townes. Ariz. (Chiricahua Mts.).

*Xorides (Exomus) humeralis chiricensis* Townes, 1960. *In* Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 497, 501. ♀.

\**humeralis excomptus* Townes. Calif.

*Xorides (Exomus) humeralis excomptus* Townes, 1960. *In* Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 497, 500. ♂, ♀.

*humeralis humeralis* (Say). Canad. Zone. Hosts: *Dicerca obscura* (F.), *Neoclytus* sp. in *Ilex*.

?*Xylonomus australis* Cresson. Syn. questioned by Townes and Townes, 1960, pp. 498, 499.

\**humeralis mexicanus* Townes. Tex., Mexico.

*Xorides (Exomus) humeralis mexicanus* Townes, 1960. *In* Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 497. ♀.

*humeralis piceatus* Rohwer.

\**humeralis sierrae* Townes. Calif.

*Xorides (Exomus) humeralis sierrae* Townes, 1960. *In* Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 497, 500. ♂, ♀.

*XORIDES* subgenus *XORIDES* Latreille

\**Amphixylonomus* Benoit, 1952. Ann. Ent. Soc. Belg. Bul. 88: 136. Syn. by Townes and Townes, 1960, p. 502.

Type: *Xylonomus (Amphixylonomus) konduensis* Benoit. Orig. desig.

*albopictus* (Cresson).

\**atrox* Townes. B. C. (Robson).

*Xorides (Xorides) atrox* Townes, 1960. *In* Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 492, 520. ♀.

\**boharti* Townes. Calif.

*Xorides (Xorides) boharti* Townes, 1960. *In* Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 493, 508. ♂, ♀.

*calidus* (Provancher). Misspelled *callidus* in catalog.

*californicus* (Cresson). Ariz., Colo. Host: *Paranthrene robiniae perlucida* (Busck).

*cincticornis cincticornis* (Cresson). Changed status. Alta., Mont. (Reduced to subsp. rank by Townes and Townes, 1960, p. 528).

\**cincticornis rufus* Townes. Calif., Oreg.

*Xorides (Xorides) cincticornis rufus* Townes, 1960. *In* Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 528, 530. ♂, ♀.

*eastoni* (Rohwer). Wis., B. C.

*frigidus* (Cresson). Transcont. in Canad. Zone.

**harringtoni** (Rohwer). Host: *Dicerca divaricata* (Say).

**insularis** (Cresson). Alaska, Alta., Ariz., Que. Host: Scolytid in *Pseudotsuga taxifolia*.

**maudae** (Davis). Wash.

\***medius** Townes. Idaho, Calif.

*Xorides (Xorides) medius* Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 493, 511. ♂, ♀.

**neoclyti** (Rohwer). N. Mex., Colo.

\***peniculus** Townes. N. Y., Pa., N. J., S. C., Tex.

*Xorides (Xorides) peniculus* Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 494, 506. ♂, ♀.

\***pictus** Townes. Calif.

*Xorides (Xorides) pictus* Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 493, 505. ♀.

\***planus** Townes. Ariz., Colo.

*Xorides (Xorides) planus* Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 493, 511. ♂, ♀.

**rileyi** (Ashmead). Ga., Fla. Host: *Phymatodes testaceus* (L.).

*Xorides ruficoxis* (Rohwer) (syn. by Townes and Townes, 1960, p. 508).

\***rudis** Townes. Calif. (Lone Pine).

*Xorides (Xorides) rudis* Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 493, 510. ♀.

**ruficoxis** (Rohwer). Syn. of **rileyi** (Ashmead).

\***semirufus** Townes. Fla. (Archer).

*Xorides (Xorides) semirufus* Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 494, 506. ♀.

**stigmapterus floridanus** (Ashmead). Ill.

**stigmapterus stigmapterus** (Say). Transcont. in Canad., Transit., and Upper Austral Zones. Host: ? *Dryobius sexfasciatus* (Say). (Reduced to subsp. rank by Townes and Townes, 1960, p. 526.)

\**Xylonomus tartarus* Morley, 1913. Fauna Brit. India . . . Hym., v. 3, pp. 77, 78. ♀. (Syn. by Townes and Townes, 1960, p. 526.)

#### Genus ODONTOCOLON Cushman, p. 206

**abdominale abdominale** (Cresson), changed status. Idaho, Mont., Wyo., Utah, Colo., Ariz. Reduced to subsp. rank by Townes and Townes, 1960, p. 463.

\***abdominale fergusonii** Townes. Alta., B. C., Wash.

*Odontocolon abdominale fergusonii* Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 463, 464. ♂, ♀.

**aethiops** (Cresson). B. C., Mont.

**alaskensis** (Rohwer). Alaska. A valid species (*teste* Townes and Townes, 1960, pp. 450, 453, 460).

**albotibiale** (Bradley). N. S., Ont., Minn., Iowa, S. C., Fla. Remove question-marks before cit. of *striatus* Cushman and *aciculatus* Cushman.

**atripes** (Rohwer). P. E. I., Ont., Alta., Ala.

**bicolor** (Cresson). Ala., S. C., Va., Md.

**brevicaudus** (Cushman). Wash., Idaho.

**canadense** (Provancher). N. S., Ont., Mich., Minn.

\***cilipes** Townes. Ariz. (Chiricahua Mts.).

*Odontocolon cilipes* Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 449, 452, 454. ♀.

\***curtum** Townes. Calif.

*Odontocolon curtum* Townes, 1960. *In* Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 450, 453, 470. ♂, ♀.

\***depressum** Townes. Colo. (Rocky Mt. N. P.).

*Odontocolon depressum* Townes, 1960. *In* Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 449, 453, 459. ♀.

**dichrous** (Rohwer).

Taxonomy: Townes and Townes, 1960, pp. 450, 451, 453, 454, 475-478. ♀, ♂.

\***dreisbachi** Townes. Mich. (Isle Royale).

*Odontocolon dreisbachi* Townes, 1960. *In* Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 450, 453, 480. ♀.

\***formicoides** Townes. Ariz. (Humphreys Peak).

*Odontocolon formicoides* Townes, 1960. *In* Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 449, 452, 458. ♂.

\***ochropus** Townes. Atlantic to Rocky Mts. in Transit. and U. Austral Zones, also B. C., Idaho.

*Odontocolon ochropus* Townes, 1960. *In* Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 451, 454, 482. ♂, ♀.

\***parvum** Townes. B. C. to Oreg., Idaho, Wyo., Colo.

*Odontocolon parvum* Townes, 1960. *In* Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 450, 452, 454, 472. ♂, ♀.

**polymorphum** Cushman. B. C., Oreg.

\***pullum** Townes. B. C., Calif.

*Odontocolon pullum* Townes, 1960. *In* Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 449, 452, 456. ♀, ♂.

**punctatum** (Cushman). B. C., Wash., Oreg., Calif. Wyo. Host: "*Tremex*" in *Abies*.

**punctulatum** (Thomson). Delete from Catalog; European species.

*Odontomerus alaskensis* Rohwer. Remove from syn., valid species.

\***sierrae** Townes. Calif.

*Odontocolon sierrae* Townes, 1960. *In* Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 451, 454, 471. ♂, ♀.

**strangaliae** (Rohwer). N. B., Ont., Mich., Wis., Minn., N. C., Tenn., Ala. Hosts: "*Leptura*" larvae, *Strangalina luteicornis* (Fab.).

**vicinum** (Cresson). Upper Austral Zone. Hosts: Buprestid in *Betula nigra*, *Dicerca divaricata* (Say).

\*Genus **ISCHNOCEROS** Gravenhorst

*Ischnoceros* Gravenhorst, 1829. Ichn. Europaea, v. 2, p. 949.

Type: *Ichneumon rusticus* Fourcroy. Desig. by Viereck, 1914.

Place before genus **Aplomerus** Provancher, p. 207.

\***clivulus** Townes. Calif.

*Ischnoceros clivulus* Townes, 1957. Ent. Soc. Wash. Proc. 59: 21. ♀.

Genus **APLOMERUS** Provancher, p. 207

\***arugosus** Townes and G. Townes. Wyo. (Shoshone Canyon).

*Aplomerus arugosus* Townes and G. Townes, 1960. *In* Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 441, 446. ♀.

**buprestivorus** Rohwer. Calif., Ariz.

\***robustus** Townes and G. Townes. B. C. to Calif. Host: Buprestid.

*Aplomerus robustus* Townes and G. Townes, 1960. *In* Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 440, 441, 443. ♂, ♀.

**tibialis** (Provancher). Oreg.

## Tribe ACAENITINI

Taxonomy: Townes and Townes, 1960, pp. 4, 544 (Subfamily status).

Genus **COLEOCENTRUS** Gravenhorst, pp. 207–208, Sup. 1, p. 39

**flavipes** (Provancher). N. S., N. B., Ont., Tenn. (Canad. Zone).

**harringtoni** Cushman. N. B., Que., N. H., Mass., Pa., Minn.

\***manni coloradensis** Townes. Colo. (nr. Estes Park).

*Coleocentrus manni coloradensis* Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 555, 556. ♂.

**manni manni** Cushman. Changed status. B. C., Wash., Oreg., Calif. Reduced to subsp. rank by Townes and Townes, 1960, p. 555.

**occidentalis occidentalis** Cresson, changed status. Mont. (Delete Calif. from dist.) Reduced to subsp. rank by Townes and Townes, 1960, p. 548.

**occidentalis pulchripennis** Cushman, changed status. Calif. Reduced to subsp. of **occidentalis**, *teste* Townes and Townes, 1960, p. 549.

**pettiti** Cresson. N. S. to Ont. and Minn. south to Pa., also Colo.

*Coleocentrus Quebecensis* Provancher. Remove from syn. A valid sp.

**quebecensis** Provancher. Atlantic Ocean to Rocky Mts. in Canad. Zone. A valid species (*teste* Townes and Townes, 1960, pp. 547, 550).

**rufocoxatus** Pratt. N. B., P.E.I., N. Y., Pa., N.W.T.

**rufus** Provancher. P. E. I., N. S., N. B., Ont., Iowa, N. Dak., Ga.

Genus **MESOCLISTUS** Foerster, p. 208

\***cushmani** Townes. Alaska (Mt. McKinley N. P.).

*Mesoclistus cushmani* Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 560. ♂, ♀.

Genus **AROTES** Gravenhorst, pp. 208–209, Sup. 1, p. 39

\***Retania** Cameron, 1886. Biol. Centr.-Amer. Hym., v. 1, p. 299. Syn. by Townes and Townes, 1960, p. 561.

Type: *Retania fascialis* Cameron. By monotypy.

**amoenus** Cresson. Host: *Melandrya striata* Say.

**formosus** Cresson. Transf. to **Spilopteron** Townes.

**maurus** Rohwer. B. C. to Minn.

**melleus** (Say). Md., D. C., N. C., Mich.

**occipitalis** Cresson. Transf. to **Spilopteron** Townes.

**rupinsulensis** (Cresson). Transf. to **Yezoceryx** Uchida.

**vicinus** Cresson. Transf. to **Spilopteron** Townes.

\*Genus **SPILOPTERON** Townes

**Spilopteron** Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 546, 568.

Type: *Spilopteron franclemonti* Townes. Orig. desig.

Place in **Acaenitini** after **Arotes** Gravenhorst, p. 209.

\***formosum australe** Townes. Md., D. C., N. C., Ga.

*Spilopteron formosum australe* Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 571, 573. ♂, ♀.

**formosum formosum** (Cresson), changed status. Que. to Man. south to N. J., Md., W. Va., Ohio and Minn. Transf. from **Arotes** Gravenhorst, and reduced to subsp. rank (*teste* Townes and Townes, 1960, pp. 571, 572).

- \***franclemonti** Townes. N. B., Que. to Man. south to N. Y., Ohio, Minn.  
*Spilopteron franclemonti* Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 569. ♂, ♀.
- occiputale** (Cresson). Ga. Transf. from *Arotes* Gravenhorst, p. 209. (teste Townes and Townes, 1960, pp. 569, 576).
- \***vicinum melanderi** Townes. Mich. to B. C., also N. S., Oreg.  
*Spilopteron vicinum melanderi* Townes, 1960. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 573, 575. ♂, ♀.
- vicinum vicinum** (Cresson), changed status, P. E. I., N. B., Que. to Man., south to W. Va., Minn., also N. W. T., Colo., Idaho. Host: *Anoplodera nigrella* (Say). Transf. from *Arotes* Gravenhorst, p. 209 and reduced to subsp. rank (teste Townes, 1960, in Townes and Townes, p. 573).

**\*Genus YEZOCERYX Uchida**

**Yezoceryx** Uchida, 1928. Hokkaido Imp. Univ. Faculty Agr. Jour. 25: 36.

Type: *Yezoceryx scutellaris* Uchida. By orig. desig.

Place in **Acaenitini**, p. 209 before subfamily **Tryphoninae**.

**rupinsulensis** (Cresson). Transf. from *Arotes* Gravenhorst (teste Townes and Townes, 1960, p. 578).

**Subfamily LYCORININAE**

(= **Tribe Lycorini**, p. 309)

Tribe **Lycorinini** transf. in Sup. 1, p. 39, from p. 309 to p. 209, following tribe **Acaenitini**.

**Genus TOXOPHOROIDES Cresson, p. 309**

This group needs revision.

**albomarginatus albomarginatus** (Cresson). Colo. Host: *Anarsia lineatella* Zeller.

\***apicalis** (Cresson). N. C., Fla., Mo.; Mexico.

**Lycorina?** **apicalis** Cresson, 1874 (1873). Acad. Nat. Sci. Philadelphia Proc. 1873: 407. ♂.

**Toxophoroides xanthozonatus** (Ashmead). N. syn.

**glaucomatus** Cushman. Ohio.

**scitulus** (Cresson). Host: *Gelechia albisparcella* (Chamb.), *Ancylis comptana fragariae* (W. & R.).

**xanthozonatus** (Ashmead). Syn. of **apicalis** (Cresson).

**Subfamily COLLYRIINAE**

This subfam. transf. in Sup. 1, p. 56, from p. 341 to p. 209, following **Pimplinae**.

**Genus COLLYRIA Schiedte, p. 341**

**calcitrator** (Gravenhorst). Md., Pa.

**Subfamily STILBOPINAE**

(= **Stilbopini** of Catalog)

Place on p. 209, before **Tryphoninae**. An undescribed species representing a new genus apparently belongs here.

Genus **STILBOPS** Foerster, p. 209

*Stilbops* Foerster. After 1900, in type citation, delete period and add: (as *veluta* Gravenhorst).

*Aphanoroptrum* Foerster. Remove from syn. with its emendations; distinct genus (*teste* Perkins, 1962, p. 405).

Genus **APHANOROPTRUM** Foerster

*Aphanoroptrum* Foerster. Change type desig. to:

Type: (*Lissonota ruficornis* Gravenhorst) = *abdominale* (Gravenhorst). Included by Thomson, 1877.

Remove from syn. of *Stilbops* Foerster. Place in subfamily *Stilbopinae*, after *Stilbops* Foerster, p. 209.

Subfamily **ADELOGNATHINAE**Genus **CNEMISCHYS** Foerster, p. 210

*Cnemischus* Thomson. Add 'Emend.' after bibliogr. ref. Delete type citation.

Genus **PAMMICRA** Foerster, p. 210

*Pammicrus* Thomson. Delete type citation. Add: Emend.

Subfamily **PHRUDINAE**

(= *Phrudini* of Catalog)

Elevated from tribal rank (*teste* Perkins, 1959, Roy. Ent. Soc. London, Handbooks: 7 (Pt. 2(ai)): 8).

Genus **PHRUDUS** Foerster, p. 210

(= *Phrudus* subgenus *Phrudus* Foerster, p. 210)

Elevated to generic rank (*teste* Perkins, 1962, p. 445).

Replace "Desig. by Viereck, 1914" of type citation, with: Included by Dalla Torre, 1901.

*exarealatus* Cushman. Transf. from subg. *Mengersenia* Schmiedeknecht, p. 210.

\*Genus **ASTRENIS** Foerster

(= ? *Phrudus* subgenus *Mengersenia* Schmiedeknecht, p. 210)

*Astrenis* Foerster, 1868. Naturh. Ver. Rheinlande Verh. 25: 148.

Type: *Hambergiella sinuata* Roman. Included and desig. by Perkins, 1962.

?*Orona* Cameron. N. syn.

?*Mengersenia* Schmiedeknecht. N. syn. Perkins considers this a valid genus. Type-species unknown to me.

*Hambergiella* Roman (syn. *teste* Perkins, 1962, p. 408).

?*petiolaris* (Cameron), n. comb.

Subfamily **TRYPHONINAE**Tribe **IDIOGRAMMATINI**Genus **IDIOGRAMMA** Foerster, p. 218, Sup. 1, p. 40

\**titana* Burdick. Calif. (Santa Clara Co.). Host: ?*Xyela* n. sp.

*Idiogramma titana* Burdick, 1958. Pan-Pacific Ent. 34 (3): 159. ♂, ♀.



Tribe PHYTODIETINI

Genus PHYTODIETUS Gravenhorst, p. 211

\**Euctenopus* Ashmead, 1900 (Oct.). U. S. Natl. Mus. Proc. 23: 50 (syn. *teste* Townes, Townes and Gupta, 1961, p. 90).

Type: *Euctenopus zealandicus* Ashmead. Orig. desig.

*Euctenopus* Ashmead, 1900 (Nov.). Place type-species name in parentheses and add: = *zealandicus* Ashmead.

\**Weisia* Schmiedeknecht, 1907. Opusc. Ent. 3 (16): 1257 (syn. *teste* Townes, Townes and Gupta, 1961, p. 91).

Type: *Weisia elegans* Schmiedeknecht. By monotypy.

\**Neuchorus* Uchida, 1931. Ins. Matsumurana 5 (3): 143 (syn. *teste* Townes, 1957, Ent. Soc. Wash. Proc. 59 (3): 113).

Type: *Neuchorus longicauda* Uchida. By monotypy and orig. desig.

This genus needs revision.

*vulgaris* Cresson. Host: *Dioryctria reniculella* (Grt.).

NETELIA subgenus PARABATES Foerster, p. 212

*Parabates* Foerster. Considered valid genus by Perkins, 1962, p. 443.

*Parabatus* Thomson. Emend.

NETELIA subgenus \*BESSOBATES Townes, Townes and Gupta

(= *Netelia* subgenus *Parabatus* auct., p. 216)

*Parabatus* Thomson. Delete type citation and transf. to syn. of *Parabates* Foerster, p. 212, as emend.

\**Bessobates* Townes, Townes and Gupta, 1961. Cat. and Classif. Indo-Austral. Ichn., pp. 93, 430.

Type: *Parabatus deceptor* Morley. Desig. by Townes, Townes, and Gupta, 1961.

Species listed under *Parabatus* Thomson, p. 216 all belong here.

NETELIA subgenus NETELIA Gray, pp. 213–216

\**Scammatonotum* Enderlein, 1914. Beitr. Kennt. Land-Sussw. Deut.-Sudwestaficas. Hym. IV, Ichn. p. 231 (syn. *teste* Townes, Townes and Gupta, 1961, p. 95).

Type: *Scammatonotum herero* Enderlein. By monotypy and orig. desig.

\**Amebachia* Uchida, 1928. Fac. Agr. Hokkaido Imp. Univ. Jour. 21: 186, 198 (syn. *teste* Townes, Townes, and Gupta, p. 95).

Type: *Amebachia baibarana* Uchida. Orig. desig.

*chloris* (Olivier).

*Netelia* (*Netelia*) *geminatus* (Say). (Syn. *teste* Townes, 1961. Ent. Soc. Wash. Proc. 63 (2): 111.)

*geminatus* (Say). A syn. of *chloris* (Olivier).

*sayi* (Cush.). Host: *Pseudaletia unipuncta* (Haw.).

Biology: Guppy, 1961. Canad. Ent. 93 (7): 569.

Tribe THYMARIDINI

Genus THYMARIS Foerster, p. 217

*Thymaris* Foerster. In type citation, delete “= [*Hemiteles*] *contaminatus* Gravenhorst” and substitute: = [*Mesoleptus*] *tener* (Gravenhorst).

*Thymarus* Thomson. Delete type citation. Add: Emend.

## Tribe TRYPHONINI

## Genus CTENOCHIRA Foerster, pp. 221-222

*Ctenacmus* Thomson. Add "Emend." after bibliogr. ref. Delete type citation.

*Trichocalymmus* Thomson. Delete type citation and transf. to syn. of *Erromenus* subg. *Erromenus* Holmgren, p. 222, as emendation of *Trichocalymma* Foerster.

\**Pauroctenus* Cameron, 1909. Bombay Nat. Hist. Soc. Jour. 19: 726 (syn. *teste* Townes, Townes, and Gupta, 1961, p. 105).

Type: *Pauroctonus pallipes* Cameron. By monotypy.

## ERROMENUS subgenus ERROMENUS Holmgren, pp. 222-224

*Trichocalymmus* Thomson. Emend. Transf. from syn. of *Ctenochira* Foerster, p. 221 (*teste* Perkins, 1962, p. 390).

## Genus MONOBLASTUS Hartig, pp. 224-225

*Otoblastus* Foerster. Perkins (1962, p. 441) considers this a valid genus.

*Coeloconus* Foerster. Change date in type citation to 1911. Perkins (1962, p. 414) considers this a valid genus.

*Neleges* Foerster. Perkins (1962, p. 438) considers this a valid genus.

## Genus DYSPETES Foerster

(= *Dyspetus* Thomson, p. 225)

*Dyspetes* Foerster, 1868. Transf. from syn. of *Horogenes* Foerster, p. 377. Replace type citation with:

Type: *Dyspetus praerogator* (Gravenhorst) = *arrogator* Heinrich, 1949. Incl. by Thomson, 1883.

*Dyspetus* Thomson, 1883. Emend.

## TRYPHON subgenus TRYPHON Fallén, pp. 225-226

*Psilosage* Foerster. Perkins (1962, p. 448) considers this a valid genus.

## Tribe EXENTERINI

(= *Cteniscini* of Catalog)

Taxonomy: Mason, 1962. Canad. Ent. 94 (12): 1273-1296 (generic limits).

## Genus ACROTOMUS Holmgren, p. 228

Taxonomy: Mason, 1962, p. 1285.

\**succinctus* (Gravenhorst). Ont.

*Tryphon succinctus* Gravenhorst, 1829. Ichn. Europaea, v. 2, p. 166. ♂, ♀.

Distribution: W. R. M. Mason, *in litt.*

## Genus EXENTERUS Hartig, pp. 228-230

Biology: Finlayson, 1960. Canad. Ent. 92 (1, 12): 26-30, 925-929 (larval descr. several spp.).—Finlayson, 1963. Canad. Ent. 95 (5): 475-507 (hosts, larval keys, bibliography).

*amictorius* (Panzer). N. H., Ohio, Wis. Hosts: *Diprion hercyniae* (Htg.), *D. similis* (Htg.), *Neodiprion nanulus nanulus* Schedl, *N. sertifer* (Geoff.).

*canadensis* Provancher. Hosts: *Neodiprion abbotii* (Leach), *N. abietis* complex, *N. excitans* (Roh.), *N. nanulus nanulus* Schedl, *N. pratti pratti* (Dyar).

Biology: Finlayson, 1960. Canad. Ent. 92 (1): 26; 1963. Canad. Ent. 95 (5): 486, 488.

*claripennis* Thomson. Remove from catalog; misidentification (see *Exenterus confusus* Kerrich); not in Nearctic region.

\**confusus* Kerrich. N. B., Que.; Europe. Hosts: *Diprion hercyniae* (Htg.), *Neodiprion namulus namulus* Schedl.

*Exenterus confusus* Kerrich, 1952. Brit. Mus. (Nat. Hist.) Ent. Bul. 2 (6): 361, 366. ♂, ♀. Misdet. as *E. claripennis* Thomson in catalog).

*tugae* Cushman. Host: *Neodiprion* sp. nr. *scutellatus* Roh.

*walleyi* Cushman. Host: *Neodiprion sertifer* (Geoff.).

Genus **SMICROLEPTRUS** Thomson, p. 230, Sup. 1, p. 43

*Excavarus* Davis. Remove from syn. A valid genus.

*annulipes* (Cresson). Transf. to *Excavarus* Davis.

*etrocaulus etrocaulus* Mason. Transf. to *Excavarus* Davis.

*etrocaulus eurus* Mason. Transf. to *Excavarus* Davis.

*velox* Walley. Transf. to *Excavarus* Davis.

Genus **EXCAVARUS** Davis

A valid genus (*teste* Mason, 1962, p. 1293); not a syn. of *Smicroplectrus* Thomson. Place after *Smicroplectrus*, p. 230.

*annulipes* (Cresson). Transf. from *Smicroplectrus* Thomson, p. 230 (*teste* Mason, 1962, p. 1293).

*etrocaulus etrocaulus* (Mason). Transf. from *Smicroplectrus* Thomson, Sup. 1, p. 43 (*teste* Mason, 1962, 1293).

*etrocaulus eurus* (Mason). Transf. from *Smicroplectrus* Thomson, Sup. 1, p. 43 (*teste* Mason, 1962, p. 1293).

*velox* (Walley). Transf. from *Smicroplectrus* Thomson, p. 230 and Sup. 1, p. 43 (*teste* Mason, 1962, p. 1293).

Genus **EXYSTON** Schiødte, pp. 230-231

*Anecphysis* Foerster. Remove from syn. A valid subg.  
Revision: Mason, 1959. Canad. Jour. Zool. 37: 1067-1115.

*cinctulus* (Gravenhorst). Delete from Catalog (misdet.), not in Nearctic fauna; is Palearctic (*teste* Mason, 1959, p. 1110).

*Cteniscus clavatus* Cresson. Remove from syn. A valid sp. in subg. *Exyston* Schiødte.

*Cteniscus abdominalis* Cresson. Syn. of *clavatus* (Cresson).

*Mesoleptus maculosus* Provancher. Syn. of *clavatus* (Cresson).

*Exyston abdominalis* Ashmead. Syn. of *clavatus* (Cresson).

*Rhimphalea erythrogaster* Viereck. Syn. of *clavatus* (Cresson).

*contractus* Davis. Not assignable to subg. or species (*teste* Mason, 1959, p. 1112).

*excelsus* (Cresson). Placed in subg. *Exyston* Schiødte.

*Exyston marginatum* Provancher. A valid sp. in subg. *Anecphysis* Foerster.

*flavens* Davis. Placed in subg. *Exyston* Schiødte.

*humeralis* Davis. Placed in subg. *Exyston* Schiødte.

*nigreo* Davis. Placed in subg. *Anecphysis* Foerster with its syn. as syn. of *marginatus* Provancher.

*nigroscutum* Davis. Not assignable to subg. or species (*teste* Mason, 1959, p. 1112).

*speciosus* Davis. Placed in subg. *Anecphysis* Foerster.

*variatus* Provancher. Placed in subg. *Anecphysis* Foerster. Misdet. in Cat. (*teste* Mason, 1959, p. 1082).

*Exyston nigroscutum* Davis. Remove from syn. Not assignable to subg. (*teste* Mason, 1959, p. 1112).

*Exyston boreotis* Davis. Remove from syn. A valid sp. in subg. *Anecphysis* Foerster (*teste* Mason, 1959, p. 1082).

*venustus* (Cresson). Placed in subg. *Exyston* Schiødte.

*Exyston politus* Davis. Remove from syn. A valid species in subg. *Exyston* Schiødte.

#### EXYSTON subgenus ANECPHYSIS Foerster

Place on p. 230 before *Exyston* (*Exyston*) Schiødte (*teste* Mason, 1959, p. 1067). Subgeneric placement of all species *teste* Mason, 1959, pp. 1071-1097.

\**ater* Mason. B. C., Wash., Oreg.

*Exyston (Anecphysis) ater* Mason, 1959. *Canad. Jour. Zool.* 37: 1070, 1095. ♂, ♀.

\**austelli* Mason. Mass. to N.C.

*Exyston (Anecphysis) austelli* Mason, 1959. *Canad. Jour. Zool.* 37: 1069, 1078. ♂, ♀.

*boreotis* Davis. Mich. to Cont. Divide in Transit. and *Canad. Zones*.

\**californicus* Mason. Alaska, Oreg., Calif., Colo., Wyo., Mont., Idaho, Alta.

*Exyston (Anecphysis) californicus* Mason, 1959. *Canad. Jour. Zool.* 37: 1070, 1093. ♀, ♂.

\**hadros* Mason. Alta., Sask., Colo., Minn., Mich.

*Exyston (Anecphysis) hadros* Mason, 1959. *Canad. Jour. Zool.* 37: 1069, 1080. ♂, ♀.

\**lophotos* Mason. N. W. T., Sask., Alta., B. C., Wash., Calif.

*Exyston (Anecphysis) lophotos* Mason, 1959. *Canad. Jour. Zool.* 37: 1070, 1091. ♂, ♀.

*marginatus* Provancher. Transcont. in Transit., *Canad.*, and *Huds. Zones*. A valid species (*teste* Mason, 1959, pp. 1071-1073).

*Anecphysis curvineura* Davis (syn. *teste* Mason, 1959, p. 1071).

*Exyston nigreo* Davis (syn. *teste* Mason, 1959, p. 1071).

\**reniformis* Mason. Colo., Alta., B. C., Oreg., Calif.

*Exyston (Anecphysis) reniformis* Mason, 1959. *Canad. Jour. Zool.* 37: 1070, 1089. ♂, ♀.

*speciosus* Davis. Alta., Idaho, Mont., Wyo.

\**spinulosus* Mason. Alaska, Yukon, N. W. T., Wash., Sask., Wyo., N. Dak., S. Dak., Minn., Iowa, Kans. (Misdet. as *contractus* in Catalog, *teste* Mason, 1959, p. 1086).

*Exyston (Anecphysis) spinulosus* Mason, 1959. *Canad. Jour. Zool.* 37: 1069, 1086. ♂, ♀.

\**tectus* Mason. N. B., P.E.I. to N. C. and Tenn., west to Colo., B. C., Wash., Oreg., also Calif., Ariz. Hosts: *Pristiphora bivittata* (Nort.), *P. idiota* (Nort.), *P. sycophanta* Walsh.

*Exyston (Anecphysis) tectus* Mason, 1959. *Canad. Jour. Zool.* 37: 1069, 1073. ♂, ♀.

*variatus* Provancher. Atlantic to Cont. Divide; B. C. *Canad. Zone* to U. Austr. *Zone*.

#### EXYSTON subgenus EXYSTON Schiødte, pp. 230-231

Subgeneric placement of all species, *teste* Mason, 1959, pp. 1097-1110.

\**chamaeleon* Mason. Yukon, B. C., Wash., Oreg., Calif., Ariz., N. Mex., Utah, Colo., Alta., Sask., S. Dak., Ont.

*Exyston (Exyston) chamaeleon* Mason, 1959. *Canad. Jour. Zool.* 37: 1069, 1099. ♀, ♂.

**clavatus** (Cresson). Atlantic to Cont. Divide in Canad., Transit., U. Austr. Zones, B. C., Wash., Calif. Valid sp. *teste* Mason, 1959, pp. 1068, 1110).

*Cteniscus abdominalis* Cresson.

*Mesoleptus maculosus* Provancher.

*Exyston abdominalis* Ashmead.

*Rhimphalea erythrogaster* Viereck.

**excelsus** (Cresson). Colo.

**flavens** Davis. N. J.

**humeralis** Davis. Kans.

**\*illinois** Mason. Que., Ont., Mich., Ill., Iowa.

*Exyston (Exyston) illinois* Mason, 1959. Canad. Jour. Zool. 37: 1069, 1103. ♀, ♂.

**politus** Davis. Calif., Wyo., Mont. A valid sp. (*teste* Mason, 1959, pp. 1069, 1109).

**venustus** (Cresson). B. C., Wash., Utah, Colo., S. Dak., Sask.

### Subfamily CRYPTINAE

#### Tribe BRACHYCYRTINI

Genus **BRACHYCYRTUS** Kriechbaumer, p. 203, Sup. 1, pp. 39, 43

**\*Xanthocharops** Morley, 1912. Linn. Soc. London, Trans. 15: 173 (syn. *teste* Townes and Townes, 1960, p. 542).

Type: *Xanthocharops primus* Morley. By monotypy.

**pretiosus** Cushman. Host: *Chrysopa lateralis* (Guér.).

#### Tribe HEMITELINI

Genus **BATHYTHRIX** Foerster, pp. 231–232

**Chaeretymma** Foerster, 1868. Delete type desig. and transf. genus to syn. of *Cubocephalus* Ratzeburg, p. 253.

**\*Stenoschema** Foerster, 1868. Naturh. Ver. Rheinlande. Verh. 25: 220. *Nom. Nud.* (Syn. *teste* Townes, Townes, and Gupta, 1961, p. 119.)

**\*Agenora** Cameron, 1909. Bombay Nat. Hist. Soc. Jour. 19: 722 (syn. *teste* Townes, Townes, and Gupta, 1961, p. 119).

Type: (*Agenora hirticeps* Cameron) = *claviger* Taschenberg. By monotypy.

Genus **MASTRUS** Foerster, pp. 233–234

**\*Perosis** Foerster, 1868. Naturh. Ver. Rheinlande Verh. 25: 169 (syn. *teste* Perkins, 1962, p. 443).

Type: *Echthrus armatus* Gravenhorst. Desig. by Viereck, 1914.

**\*Daictes** Foerster, 1868. Naturh. Ver. Rheinlande Verh. 25: 176 (syn. *teste* Townes, 1957. Ent. Soc. Wash. Proc. 59 (3): 104).

Type: *Phygadeuon (Daictes) fukaii* Viereck. First incl. sp.

**argeae** (Viereck).

Biology: Finlayson, 1960. Canad. Ent. 92 (1): 30 (larval).

**\*Genus DICHROGASTER** Doumerc

(= *Otacustes* Foerster, pp. 234–235)

**Dichrogaster** Doumerc, 1855. Soc. Ent. France Ann. (Ser. 3) 3, Bul. 3: LXXXVIII–LXXXIX.

Type: *Microgaster perlae* Doumerc. By monotypy.

**Otacus'es** Foerster (syn. *teste* Townes, Townes and Gupta, 1961, p. 121).

**\*Microtorus** Foerster, 1868. Naturh. Ver. Rheinlande Verh. 25: 174 (syn. *teste* Townes, Townes and Gupta, 1961, p. 121).

Type: *Microtorus kichijoi* Uchida (= *Hemiteles (Rhadiurgus) chrysopae* Uchida, preocc.). Desig. by Townes, 1957.

\**Xenobrachys* Foerster, 1868. Naturh. Ver. Rheinlande Verh. 25: 179 (syn. *teste* Perkins, 1962. Brit. Mus. (nat. Hist.) Ent. Bul. 11 (8): 462;—Townes, Townes and Gupta, 1961, p. 121 [without type-species]).

Type: *Hemiteles longicaudatus* Thomson. Desig. by Perkins, 1962.

*bicolor* (Cushman), n. comb.

*crassus chrysopae* (Ashmead), n. comb. Hosts: *Chrysopa* sp., *C. bimaculata* McCl., *C. cubana* Hager, *C. rufilabris* Burm., *C. sanchezi* Navas.

*crassus patruelis* (Cushman), n. comb.

#### Genus ETHELURGUS Foerster, p. 235

\**Nuneches* Foerster, 1868. Naturh. Ver. Rheinlande Verh. 25: 186.

Type: *Phygadeuon sodalis* Taschenberg. Incl. and desig. by Perkins, 1962.

*belfragi* (Ashmead). Not congeneric with type-species *syrrhicola* Ashm. Revisionary work needed for placement.

#### Genus ISDROMAS Foerster, p. 236

*Isdromas* Foerster. In type citation change "Ashmead, 1900" to Ashmead in Smith, 1900.

*lycaenae* (Howard). Host: *Apanteles congregatus* (Say); delete *Homadaula albizziae* Clarke.

#### Genus ALEGINA Foerster, pp. 236–237

*apantelis* (Cushman). Host: *Ocnerostoma strobivorum* Free.

\**laricellae* Mason. N. B., P.E.I., Ont. Host: *Argyresthia laricella* Kft.

*Alegina laricellae* Mason, 1961. Canad. Ent. 93 (1): 4. ♂, ♀.

*maesticolor* (Roman). Transf. from *Haplaspis* Townes, p. 238 (*teste* Townes, 1961. Ent. Soc. Wash. Proc. 63 (2): 104).

#### Genus CHIROTICA Foerster

*Chirotica* Foerster. Transf. from syn. of *Gelis* Thunberg, p. 239.

Type: (*Hemiteles insignis* Gravenhorst) = *trifasciator* (Thunberg). Included by Schimiedeknecht, 1897.

\**Spinolia* Foerster, 1868. Naturh. Ver. Rheinlande Verh. 25: 173. Preocc. (Syn. *teste* Perkins, 1962, p. 452.)

Type: *Hemiteles maculipennis* Gravenhorst. Incl. by Schimiedeknecht, 1897.

*Diaglypta* Foerster. Transf. from syn. of *Phobetres* Foerster, p. 237 (syn. *teste* Perkins, 1962, p. 417).

\**Deuterospinolia* Dalla Torre, 1902. Cat. Hym., v. 3 (pt. 2), p. 678. N. name.

Place after *Diaglyptidea* Viereck, p. 237.

*conspicua* (Cresson), n. comb. Transf. from *Phobetres* Foerster, p. 238.

*sheppardi* (Walley), n. comb. Transf. from *Phobetres* Foerster, p. 238.

#### Genus Phobetres Foerster, pp. 237–238

*Allocota* Foerster. Transf. to syn. of *Hymenosyneches* Viereck.

*Syneches* Foerster. Transf. to syn. of *Hymenosyneches* Viereck.

*Diaglypta* Foerster. Transf. to syn. of \**Chirotica* Foerster.

*Phobetres* Foerster, 1868. Delete type citation and transf. to Euryproctini, p. 338, as valid name for *Ipoctoninus* Hincks.

*Hymenosyneches* Viereck. Remove from syn. A valid genus.

- confederatae* (Ashmead). Transf. to **Hymenosyneches** Viereck.  
*conspicuus* (Cresson). Transf. to **\*Chirotica** Foerster.  
*sheppardi* (Walley). Transf. to **\*Chirotica** Foerster.  
*thyridopteryx* (Riley). Transf. to **Hymenosyneches** Viereck.

**Genus HYMENOSYNECHES Viereck**

- Allocota* Foerster, preocc. Transf. from syn. of **Phobetes** Foerster, p. 237. N. syn.  
*Syneches* Foerster, preocc. Transf. from syn. of **Phobetes** Foerster, p. 237.  
*Hymenosyneches* Viereck. Transf. from syn. of **Phobetes** Foerster, p. 238. A valid genus.  
*confederatae* (Ashmead), n. comb. Transf. from **Phobetes** Foerster, p. 238.  
*thyridopteryx* (Riley). Transf. from **Phobetes** Foerster, p. 238.

**\*Genus LYSIBIA Foerster**

(= *Haplaspis* Townes, p. 238)

- Lysibia* Foerster 1868. Naturh. Ver. Rheinlande Verh. 25: 175.  
 Type: (*Tryphon fulvipes* Gravenhorst) = *nana* Gravenhorst.  
 Design. by Townes, Momoi, and Townes, 1965. An earlier  
 desig. by Perkins, 1962, p. 436, of *Tryphon nanus* Graven-  
 horst is invalid because that species was not one of the  
 three (one through generic synonymy) included by  
 Townes, Townes, and Gupta, 1961, p. 123, who made no  
 type designation at that time.  
*\*Pemon* Foerster, 1868. Naturh. Ver. Rheinlande Verh. 25: 174 (syn.  
*teste* Perkins, 1962, p. 443; also Townes, Townes, and Gupta 1961,  
 but without type desig.)  
 Type: *Pemon proximum* Perkins. Included and desig. by Per-  
 kins, 1962.  
*Haplaspis* Townes (syn. *teste* Townes, Townes, and Gupta, 1961, p. 123).  
*maesticolor* (Roman). Transf. to **Alegina** Foerster, p. 236.  
*mandibularis* (Provancher), n. comb.

**\*Genus CHARITOPES Foerster**

- Charitopes* Foerster, 1868. Naturh. Ver. Rheinlande Verh. 25: 181.  
 Type: *Hemiteles (Charitopes) chrysopae* Brischke. First incl.  
 sp.  
 Place on p. 238 before *Gelis* Thunberg.  
*gastricus* (Holmgren). Transf. from **Alphabetic List of Unplaced Species**, p.  
 408 (*teste* Townes, 1961. Ent. Soc. Wash. Proc. 63(2): 106).  
*plecticinus* (Roman). Transf. from **Alphabetic List of Unplaced Species**, p.  
 409 (*teste* Townes, 1961. Ent. Soc. Wash. Proc. 63 (2): 111).

**Genus GELIS Thunberg, pp. 238-243**

- \*Thamatotypus* Foerster, 1868. Naturh. Ver. Rheinlande Verh. 25: 172  
 (syn. *teste* Perkins, 1962, p. 457).  
 Type: *Thamatotypus femoralis* Brischke. Incl. by Brischke,  
 1881.  
*Chirotica* Foerster. Delete type desig. and remove from syn. A valid  
 genus.  
*\*Rhadiurgus* Foerster, 1868. Naturh. Ver. Rheinlande 25: 177 (syn.  
*teste* Perkins, 1962, p. 449).  
 Type: (*Hemiteles bicolorinus* Gravenhorst) = *\*Gelis cinctus*  
 (Linnaeus). Incl. by Uchida, 1933.  
*Ilapinastes* Foerster. In type citation add "in Davidson" between Ash-  
 mead and comma.

\**Urithreptis* Foerster, 1868. Naturh. Ver. Rheinlande Verh. 25: 180 (syn. *teste* Perkins, 1962, p. 462; Townes, Momoi, and Townes, 1965, p. 133).

Type: Not yet selected (Foerster spm., a *Gelis* ♂, not now recognized to species).

\**Thaumtogelis* Kupka in Schmiedeknecht, 1933. Opusc. Ich. Sup., fasc. 17: 7-8 (syn. *teste* Perkins, 1962, pp. 392, 457).

Type: *Pezomachus aquisgranensis* Foerster. Desig. by Townes, Momoi, and Townes, 1965.

\**Cryptogelis* Hellén, 1944. Notulae Ent. 24: 2.

Type: *Pezomachus aquisgranensis* Foerster. Desig. by Townes, Momoi, and Townes, 1965.

\**Holcogelis* Aubert, 1957. Münchner Ent. Ges. Mitt. 57: 226.

Type: *Pezomachus corruptor* Foerster. Orig. Desig.

A revision will probably show this genus to be comprised of several segregates.

*obscurus* (Cresson). Ont. Host: *Ocnerostoma* sp.

*tenellus* (Say). Host: *Coleophora laricella* Hbn.

*urbanus* (Brues). Que.

Biology: Finlayson, 1960. Canad. Ent. 92(12): 930 (larval).

#### Genus GNYPETOMORPHA Foerster, p. 245

\**Daetora* Foerster, 1868. Naturh. Ver. Rheinlande Verh. 25: 175 (syn. *teste* Perkins, 1962, p. 416).

Type: *Hemiteles solutus* Thomson. Desig. by Perkins, 1962.

\**Opisthostenus* Foerster, 1868. Naturh. Ver. Rheinlande Verh. 25: 175 (syn. *teste* Townes, 1957. Proc. Ent. Soc. Wash. 59 (3): 114).

Type: *Hemiteles (Opisthostenus) etorofuensis* Uchida. Incl. by Uchida, 1936.

#### \*Genus XENOLYTUS Foerster

(= *Sternocryptus* Roman, p. 245)

*Xenolytus* Foerster, 1868. Naturh. Ver. Rheinlande Verh. 25: 174.

Type: \**Xenolytus rufipes* Cameron) = *Xenolytus bitinctus* (Gmelin). Included by Cameron, 1906 (Feb.).

*Sternocryptus* Roman (syn. *teste* Perkins, 1962, p. 462).

*bitinctus* (Gmelin).

\**Xenolytus rufipes* Cameron, 1906 (Feb.). So. African Mus. Ann. 5: 154.  
♀.

*limatus* (Cresson), n. comb.

*occidentalis* (Harrington), n. comb.

*subspinosus* (Provancher), n. comb.

#### ENDASYs subgenus ENDASYs Foerster, pp. 245-246

\**Scinacopus* Foerster, 1868. Naturh. Ver. Rheinlande Verh. 25: 185 (syn. *teste* Habermehl, 1912. Deut. Ent. Ztschr. 1912: 175; Perkins, 1962, p. 451).

Type: (*Phygadeuon cnemargus* Gravenhorst = [*Endasy*] *parviventris cnemargus* (Gravenhorst). Included by Brischke, 1891.

*subclavatus* (Say). Hosts: *Neodiprion excitans* Roh., *N. lecontei* (Fitch), *N. nanulus* Schedl, *N. pratti pratti* (Dyar), *N. sertifer* (Geoff.), *N. swainnei* Midd., *N. virginiana* Roh., *Zadiprion grandis* (Roh.). Parasite: *Euceros frigidus* Cress.

Biology: Finlayson, 1960. Canad. Ent. 92 (1): 25, 32.—Tripp, 1961. Canad. Ent. 93 (1): 53.—Finlayson, 1963. Canad. Ent. 95 (5): 476-485, 491.—Bobb, 1963. Jour. Econ. Ent. 56 (5): 619, 620.



\*Genus **THEROSCOPUS** Foerster

**Theroscopus** Foerster, 1850. Arch. f. Naturgesch. 16 (1): 92.

Type: (*Pezomachus pedestris* Gravenhorst) = **Theroscopus pedestris** (Fabricius). Desig. by Viereck, 1914.

Place in Hemitelini in Catalog, p. 247, before **Eriplanus** Foerster. An undescribed species occurs in the midwest.

Genus **ERIPLANUS** Foerster, p. 247

**Chamerpes** Foerster. Perkins (1962, pp. 392, 413) considers this a syn. of **Theroscopus** Foerster.

**Phytus** Foerster. Perkins (1962, pp. 392, 445) considers this a syn. of **Theroscopus** Foerster.

\***Thysiotorus** Foerster, 1868. Naturh. Ver. Rheinlande Verh. 25: 181. Perkins (1962, pp. 392, 458) considers this a syn. of **Theroscopus** Foerster.

Type: (*Hemiteles (Physiotorus)* [sic] *brevipennis* Brischke) = *hemipterus* (Fabricius) (*teste* Perkins, 1962, p. 458). Desig. by Viereck, 1914.

I am not at all sure that the above genera, listed by Perkins as synonyms of **Theroscopus** Foerster, belong here. They are left here until a much needed revision of the Hemitelini places them elsewhere.

Genus **PHYGADEUON** Gravenhorst, pp. 247-250, Sup. 1, p. 45

\***Stibeutes** Foerster, 1850. Arch. f. Naturgesch. 16 (1): 76 (syn. *teste* Thomson, 1884. Opusc. Ent. f. 10, p. 948; Perkins, 1962, p. 453).

Type: **Stibeutes gravenhorstii** Foerster. Desig. by Ashmead, 1900.

\***Apterophygus** Foerster, 1868. Naturh. Rheinlande Verh. 25: 172 (syn. *teste* Perkins, 1962, p. 406).

Type: **Apterophygus** (Fst.) ? *paradoxus* Bridgman. Incl. by Schmiedeknecht, 1897.

\***Gunopaches** Foerster, 1868. Naturh. Ver. Rheinlande Verh. 25: 174 (syn. *teste* Perkins, 1962, p. 426).

Type: **Gunopaches crassus** Perkins. Incl. and desig. by Perkins, 1962.

\***Pantolispa** Foerster, 1868. Naturh. Ver. Rheinlande Verh. 25: 178 (syn. *teste* Perkins, 1962, p. 442).

Type: **Gunopaches crassus** Perkins. Incl. and desig. by Perkins, 1962.

\***Bathymetis** Foerster, 1868. Naturh. Ver. Rheinlande Verh. 25: 182 (syn. *teste* Perkins, 1962, p. 410).

Type: **Phygadeuon (Bathymetis) cylindricus** Brischke. Desig. by Viereck, 1914.

**Homelys** Foerster. Remove "Included by Roman, 1909" from type citation and replace with: Incl. and desig. by Viereck, 1914. (See Perkins, 1962, p. 428.)

\***Ernoctona** Foerster, 1868. Naturh. Ver. Rheinlande Verh. 25: 183 (syn. *teste* Perkins, 1962, p. 423).

Type: **Phygadeuon rugulosus** Gravenhorst. Incl. and desig. by Perkins, 1962.

**Plesignathus** Foerster. Delete type citation and transf. genus to syn. of **Polytribax** Foerster, p. 257.

**Zaphleges** Foerster. Misspelled in Index, p. 1284, as **Zathleges**.

\*? **Odontoneura** Foerster, 1868. Naturh. Ver. Rheinlande Verh. 25: 185. Syn. (*see* Perkins, 1962, p. 440).

Type: **Phygadeuon annulicornis** Thomson. Desig. by Perkins, 1962.

**victoriensis** Townes. Calif. Host: *Fannia canicularis* (L.).

**Centeterus canadensis** Harrington. Add 1894 to bibliographic citation and change vol. no. to 26.

**Genus ISELIX Foerster, p. 250**

Perkins, 1962, p. 432, considers this a syn. of *Phygadenon* Gravenhorst.

**\*Genus CREMNODES Foerster**

(= *Caenomeris* Foerster, p. 250)

*Cremnodes* Foerster, 1850. Arch. f. Naturgesch. 16 (1): 72.

Type: *Ichneumon atricapillus* Gravenhorst. Orig. desig.

*Caenomeris* Foerster (syn. *teste* Perkins, 1962, p. 411).

\**Stygera* Foerster, 1868. Naturh. Ver. Rheinlande Verh. 25: 176 (syn. *teste* Perkins, 1962, p. 397, 454).

Type: *Stygera rufipes* Perkins. Incl. and desig. by Perkins, 1962.

\**Cremnias* Roman, 1939. Ent. Tidskr. 60 (3-4): 186. N. name, unnecessarily proposed.

**Genus STILPNUS Gravenhorst, pp. 250-251**

*anthomyidiperda* Viereck. Calif. Host: *Fannia canicularis* (L.)

**Genus MESOLEPTUS Gravenhorst, p. 251**

\**Exolytus* Foerster, 1868. Naturh. Ver. Rheinlande Verh. 25: 182. Preocc.

Type: *Ichneumon laevigatus* Gravenhorst. Incl. and desig. by Foerster, 1871.

**Genus ATRACTODES Gravenhorst, pp. 251-253, Sup. 1, p. 45**

*Asyncrita* Foerster. Perkins 1962, p. 408, considers this a valid genus.

**Tribe HEMIGASTERINI**

(= *Aptesini* of Catalog)

Revision: Townes and Gupta, 1962. Amer. Ent. Inst. Mem. 2, 305 pp., figs.

**\*Genus JAVRA Cameron**

\**Cnemocryptus* Cameron, 1903. Mem. and Proc. Manchester Lit. Phil. Soc. 47 (14): 38.

Type: (*Cnemocryptus validicornis* Cameron) = *parviceps* Cameron. By monotypy.

\**Javra* Cameron, 1903. Mem. and Proc. Manchester Lit. Phil. Soc. 47 (14): 47.

Type: *Javra parviceps* Cameron. Desig. by Viereck, 1914.

\**Monocryptus* Hellén, 1956. Notulae Ent. 36: 135. New syn.

Type: *Cratocryptus opacus* Thomson. By monotypy.

Place as first genus in Hemigasterini.

\**glaesaria* Townes. R. I., N. Y., Ont.

*Javra glaesaria* Townes, 1962. Amer. Ent. Inst. Mem. 2: 12, 13. ♀.

\**rugata* Townes. Ohio, Va.

*Javra rugata* Townes, 1962. Amer. Ent. Inst. Mem. 2: 12. ♀.

**\*Genus PARMORTHA Townes**

*Parmortha* Townes 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 8, 14.

Type: (*Parmortha pleuralis atripes* Townes) = *pleuralis albo-maculata* (Ashm.) n. comb., n. syn. (*teste* Momoi who examined types).

Place after *Javra* Cameron in tribe Hemigasterini.

*circumcincta circumcincta* (Provancher). Canad. and Upper Austral Zones. Transf. from *Cubocephalus* Ratzeburg (*teste* Townes, in Townes and Gupta, 1962, p. 24).

**circumcincta flavipes** (Harrington). Colo., Alta., Yukon. Transf. from **Cubocephalus** Ratzeburg, p. 254 (*teste* Townes, in Townes and Gupta, 1962, p. 23).

\***parvula** (Gravenhorst). Alaska, B. C. to N. S. south to Oreg. and N. J.; Europe. Hosts: *Ametastegia glabrata* (Fallén); sawfly in *Ribes*.

**Cryptus parvulus** Gravenhorst, 1829. Ichn. Europaea 2: 459 "♂", ♀ ("♂" = *Apsilops cincticornis* F.).

\***Cryptus erythropus** Gravenhorst, 1829. Ichn. Europaea 2: 469. ♂.

**Cubocephalus erythropus velox** (Cresson). (syn. by Townes, in Townes and Gupta, 1962, p. 16).

\***pleuralis alpina** Townes. N. H. (Mt. Washington). *P. pleuralis pleuralis* Thomson occurs in Europe.

**Parmortha pleuralis alpina** Townes, 1962. in Townes and Gupta, Amer. Ent. Inst. Mem. 2: 19, 22. ♀.

\***pleuralis arctica** Townes. Alaska, N. W. T., Que.

**Parmortha pleuralis arctica** Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 19. ♂, ♀.

**pleuralis signata** (Provancher), changed status. Alaska, B. C., Wash., Idaho, N. C. Host: *Ametastegia glabrata* (Fallén). Transf. from **Cubocephalus** Ratzeburg, p. 255 and reduced to subsp. rank (*teste* Townes, in Townes and Gupta, 1962, p. 20).

#### Genus CRATOCRYPTUS Thomson

**Cratocryptus** Thomson. Removed from synonymy of **Cubocephalus** Ratzeburg, p. 253. Valid genus (*teste* Townes in Townes and Gupta, 1962. Amer. Ent. Inst. Mem. 2: 9, 25).

Place after \***Parmortha** Townes.

\***petilus** Townes. Transcont. in Canad. Zone. Host: *Cephaleia* sp.

**Cratocryptus petilus** Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 26. ♂, ♀.

#### Genus CUBOCEPHALUS Ratzeburg, pp. 253-255

**Chaeretymma** Foerster, 1868. Naturh. Ver. Rheinlande Verh. 25: 187. Transf. from syn. of *Bathythrix* Foerster, p. 231. Change type desig. to:

Type: **Cryptus anatorius** Gravenhorst. Included (first sp.) and desig. by Schmiedeknecht, 1890 (p. 117).

**Cratocryptus** Thomson, 1873. Remove from syn. Valid genus.

\***Planocryptus** Heinrich, 1949. Münchner Ent. Gesell. Mitt. 35-39: 56.

Type: \***Planocryptus mirabilis** Heinrich. By monotypy and orig. desig. (Syn. *teste* Townes and Gupta, 1962, p. 92).

Taxonomy: Perkins, 1962. Brit. Mus. (Nat. Hist.) Ent. Bul. 11 (8): 413 (*Chaeretymma*).

**alacris alacris** (Cresson), changed status. Ont., Mass., N. Y., Pa., N. J., S. C., Ind., Mich., Iowa, Kans. Reduced to subsp. rank (*teste* Townes and Gupta, 1962, p. 93).

**alacris canadensis** (Provancher), changed status. Transcont. in Canad. Zone. Host: *Hemitaxonus dubitatus* (Nort.). Reduced to subsp. rank (*teste* Townes and Gupta, 1962, p. 89).

**alacris erythropygus** (Provancher), changed status. Atlantic to Wis., in Canad. and Transit. Zones. Reduced to subsp. rank (*teste* Townes and Gupta, 1962, p. 92).

**alacris minutus** (Cushman), changed status. B. C. to Calif. Hosts: *Ametastegia glabrata* (Fallén). Removed from syn. of *canadensis* Provancher and placed as subsp. of *alacris* (*teste* Townes and Gupta, 1962, p. 91).

**annectus** Townes. Alaska, Yukon, B. C., Alta., Man., Que., N. S., south to Calif., N. Mex., Mich., N. H.

- Phaeogenes nigricornis* Provancher (syn. *teste* Townes and Gupta, 1962, p. 117).
- Cubocephalus atricornis* Townes (syn. *teste* Townes and Gupta, 1962, p. 117).
- annulatus* (Cresson). Alta., Conn., Maine, Minn., N. C., Ont., Vt. Host: ?*Agrilus rubicola* Abeille.
- Cryptus latus* Provancher. Transf. to *Ischnus* Gravenhorst, p. 270, as valid species.
- Mesostenus nitidus* Provancher. Remove from syn.; a valid species.
- Cryptus ruficoxus* Provancher. Retain as syn. (*teste* Townes and Gupta, 1962, p. 82).
- Mesostenus ruficoxus* Provancher. Questionable syn. of *Giraudia plana* Provancher, p. 257.
- Cryptus occidentalis* Provancher. Place as syn. of *Cubocephalus nitidus* Provancher.
- Phygadeuon inhabilis* Provancher. Remove from syn.; a valid species.
- Phygadeuon nitidulus* Provancher. Syn. of *nitidus* (Provancher).
- Mesostenus provancheri* Dalla Torre. Questionable syn. of *Giraudia plana* Provancher, p. 257.
- \**aquilonius* Townes and Gupta. Alaska, Yukon, N. W. T., Labrador, B. C., Man., Colo.
- Cubocephalus aquilonius* Townes and Gupta, 1962. Amer. Ent. Inst. Mem. 2: 30, 37, 53. ♂, ♀.
- \**ardens* Townes. Alaska, Colo., Wis., Mich., Ont., N. H.
- Cubocephalus ardens* Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 34, 41, 109. ♂, ♀.
- ashmeadii* (Harrington). Rocky Mts. to Pacific in Canad. and Transit. Zones. Removed from syn. of *canadensis* Provancher, p. 254 (*teste* Townes and Gupta, 1962, p. 96).
- atricornis* Townes. Syn. of *annectus* Townes.
- \**atriclunis* Townes and Gupta. B. C., Man., Ont., Que., Maine, Vt., Mass., Conn., N. Y., Pa., N. J., Mich., Minn.
- Cubocephalus atriclunis* Townes and Gupta, 1962. Amer. Ent. Inst. Mem. 2: 31, 37, 56. ♂, ♀.
- baldaufi* (Dalla Torre). Maine, Mass., Ind., Minn.
- \**brevicornis* Taschenberg. Alaska, Yukon, Colo., Mich., Que.; Europe.
- Phygadeuon brevicornis* Taschenberg, 1865. Ztschr. Gesam. Naturw. Halle 25: 48. ♀.
- Taxonomy: Townes and Gupta, 1962, pp. 32, 38, 69.
- \**caligneus* Townes. N. C. (Mt. Mitchell).
- Cubocephalus caligneus* Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 40, 109. ♀.
- \**callicerus* Townes. N. S., Que., Ont., Mich., Ohio, N. Y. in Alleghanian Fauna.
- Cubocephalus callicerus* Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 33, 41, 115. ♂, ♀.
- canadensis* (Provancher). A subsp. of *alacris* (Cresson).
- Chaeretymma Ashmeadii* Harrington. Remove from syn.; a valid species.
- Chaeretymma minuta* Cushman. Remove from syn.; a valid subsp. of *alacris* (Cresson).
- \**carnosus* Townes. Que. and N. H. to Mich.
- Cubocephalus carnosus* Townes, 1962. In Townes and Gupta. Amer. Ent. Inst. Mem. 2: 35, 41, 114. ♂, ♀.
- cincticornis* (Cresson). Mich., Pa., N. Y., Ont., Que.
- circumcinctus circumcinctus* (Provancher). Transf. to *Parmortha* Townes.
- circumcinctus flavipes* (Harrington). Transf. to *Parmortha* Townes.

- \***contractus** Townes and Gupta. Transcont. in Huds. and Transit. Zones.  
*Cubocephalus contractus* Townes and Gupta, 1962. Amer. Ent. Inst. Mem. 2: 30, 35, 46. ♂, ♀.
- \***denticulatus denticulatus** Townes. Mich., Que., Maine, Vt., N. Y.  
*Cubocephalus denticulatus denticulatus* Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 30, 36, 43. ♂, ♀.
- \***denticulatus obscuripes** Townes. Alaska (Curry).  
*Cubocephalus denticulatus obscuripes* Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 42. ♀.
- \***dreisbachi** Townes. Atlantic to Rocky Mts.; Alta. in Canad. and Transit. Zones.  
*Cubocephalus dreisbachi* Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 33, 39, 94. ♂, ♀.
- erythropus velox** (Cresson). Transf. to **Parmortha** Townes, as syn. of **parvula** (Gravenhorst).
- erythropygus** (Provancher). A subsp. of **alacris** (Cresson).
- \***euryops** Townes. Minn., Mich., Ont., Vt.  
*Cubocephalus euryops* Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 31, 37, 64. ♂, ♀.
- eximius** (Cresson). Syn. of **semirufus** (Brullé).
- \***flavipes** Townes. Mich., N. Y.  
*Cubocephalus flavipes* Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 32, 38, 72. ♂, ♀.
- \***hebes** Townes. Sask., Mont.  
*Cubocephalus hebes* Townes, 1962. In Townes and Gupta, 1962. Amer. Ent. Inst. Mem. 2: 32, 38, 66. ♂, ♀.
- \***hirtipes hirtipes** Townes. Alta., Idaho, Wash., Calif., N. Mex., Colo., Wyo., Mont. (In mts.).  
*Cubocephalus hirtipes hirtipes* Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 34, 40, 121, 122. ♂, ♀.
- \***hirtipes trachodes** Townes. N. H. (Mt. Washington).  
*Cubocephalus hirtipes trachodes* Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 122. ♂, ♀.
- ignotus** (Provancher). Syn. of **nitidus nitidus** (Provancher).
- impressus** (Provancher). Que. to Minn. south to Ohio and Ga.; Colo. In Alleghanian and Carolinian faunas.
- \***incisus atriventris** Townes and Gupta. Ariz. (Greer).  
*Cubocephalus incisus atriventris* Townes and Gupta, 1962. Amer. Ent. Inst. Mem. 2: 44. ♀.
- \***incisus incisus** Townes and Gupta. Mich., N. Y.  
*Cubocephalus incisus incisus* Townes and Gupta, 1962. Amer. Ent. Inst. Mem. 2: 29, 36, 44, 45. ♂, ♀.
- incognitus** (Provancher). Ont., Vt., Mass., Wyo.
- inhabilis inhabilis** Provancher, changed status. Atlantic ocean to Rocky Mts.; Alta. Removed from syn. of **annulatus** (Cresson) and reduced to subsp. rank (*teste* Townes in Townes and Gupta, 1962, p. 85).
- \***inhabilis umbonater** Townes. Rocky Mts. to Pacific Ocean; Sask.  
*Cubocephalus inhabilis umbonater* Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 85, 87. ♂, ♀.
- laticeps** (Cresson). N. B., N. S., Mass., N. Y., N. J., S. C., Mich., Minn., S. Dak., Calif.

- \***lissopleuris** Townes and Gupta. Maine, N. Y., Pa., N. C.  
*Cubocephalus lissopleuris* Townes and Gupta, 1962. Amer. Ent. Inst. Mem. 2: 30, 59. ♂.
- maurus** (Cresson). Calif., B. C., Alta., N. W. T., Mich., Ont., Que.
- \***miarus** Townes and Gupta. Maine, N. H., N. Y., S. C., Mich., Wis.  
*Cubocephalus miarus* Townes and Gupta, 1962. Mem. Amer. Ent. Inst. 2: 31, 37, 54. ♂, ♀.
- \***micans** Townes. Que. and P. E. I. to R. I. west. to Minn.  
*Cubocephalus micans* Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 34, 40, 112. ♂, ♀.
- \***molaris cervinus** Townes and Gupta. Calif., Oreg.  
*Cubocephalus molaris cervinus* Townes and Gupta, 1962. Amer. Ent. Inst. Mem. 2: 50, 51. ♂, ♀.
- \***molaris leechi** Townes and Gupta. B. C. (Steelhead).  
*Cubocephalus molaris leechi* Townes and Gupta, 1962. Amer. Ent. Inst. Mem. 2: 50. ♂.
- \***molaris molaris** Townes and Gupta. Yukon, B. C., Wyo., Colo., N. Mex., Minn., N. Y., Ont., Que.  
*Cubocephalus molaris molaris* Townes and Gupta, 1962. Amer. Ent. Inst. Mem. 2: 29, 36, 50. ♂, ♀.
- \***nigriventris** (Thomson). B. C., Wash., Oreg., Colo., Mich., N. B., Que., Maine, N. H., N. Y., N. C., Vt.; Europe.  
*Stenocryptus nigriventris* Thomson, 1874. Opusc. ent., fasc. 6, p. 604. ♂, ♀.
- nitidus nitidus** (Provancher), changed status. Alta. to N. S. south to Mich., Pa., and R. I. Reduced to subsp. rank (*teste* Townes, in Townes and Gupta, 1962, pp. 79, 80).  
*Cryptus occidentalis* Provancher, 1875. Transf. from syn. of *annulatus* (Cresson).  
*Cubocephalus ignotus* (Provancher) 1886.  
*Phygadeuon nitidulus* Provancher. Transf. from syn. of *annulatus* (Cresson). (All syn. *teste* Townes in Townes and Gupta, 1962, p. 80).
- \***nitidus totus** Townes. Alaska, B. C., Wash., Oreg., Calif., Wyo.  
*Cubocephalus nitidus totus* Townes and Gupta, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 79. ♂, ♀.
- pallidus pallidus** (Cresson), changed status. Mich. and Kans. to Ont. and S. C. in Carolinian fauna. Reduced to subsp. rank (*teste* Townes and Gupta, 1962, pp. 100, 102).  
*Mesoleptus vultus* Cresson. (Syn. *teste* Townes, in Townes and Gupta, 1962, p. 102.)
- pallidus spissicornis** (Provancher), changed status. B. C., Wis. to Que. south to Mich. and N. C. in Alleghanian fauna. Reduced to subsp. rank (*teste* Townes and Gupta, 1962, pp. 100, 101).
- \***personatus** Townes. Wash., Oreg., Calif.  
*Cubocephalus personatus* Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 35, 41, 105. ♂, ♀.
- \***pictus** Townes. Mich., S. C.  
*Cubocephalus pictus* Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 34, 41, 111. ♂, ♀.
- \***prolixus phaeolepis** Townes and Gupta. Calif., Oreg., Wash., B. C.  
*Cubocephalus prolixus phaeolepis* Townes and Gupta, 1962. Amer. Ent. Inst. Mem. 2: 48. ♂, ♀.
- \***prolixus prolixus** Townes and Gupta. Man., S. Dak., Mich., Minn., Que., Maine, Vt., N. H., N. Y.  
*Cubocephalus prolixus prolixus* Townes and Gupta, 1962. Amer. Ent. Inst. Mem. 2: 30, 35, 48, 49. ♂, ♀.

**rectus** (Provancher). Que. to N. Y. west to Minn.

\***rufibasis** Townes and Gupta. Mich.

*Cubocephalus rufibasis* Townes and Gupta, 1962. Amer. Ent. Inst. Mem. 2: 36, 63. ♀.

**schmuckii** (Dalla Torre). Que., Maine, Mass., Vt., Md., N. C., S. C., Ga., Wis., Minn.

*Cryptus longicaudus* Provancher. Misspelled *longicaudis* in Catalog, p. 255.

\***scorteus** Townes. Que., Yukon.

*Cubocephalus scorteus* Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 31, 38, 70. ♂, ♀.

\***semifulvus** Townes. Wash., Alaska.

*Cubocephalus semifulvus* Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 32, 38, 71. ♂, ♀.

**semirufus** (Brullé). Maine to N. C., west to Mich. Transf. from Alphabetic List of Unplaced Species, p. 408 (*teste* Townes, 1961. Ent. Soc. Wash. Proc. 63 (2): 105).

*Cubocephalus eximius* (Cresson). (Syn. *teste* Townes and Gupta, 1962, p. 59).

**signatus** (Provancher). Transf. to **Parmortha** Townes as subsp. of **pleuralis** (Thomson).

**spissicornis** (Provancher). Subsp. of **pallidus** (Cresson).

\***sternolophus** Townes. Alaska, Calif., N. Mex., Mich., Ohio, Penna., N. Y.

*Cubocephalus sternolophus* Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 32, 38, 74. ♂, ♀.

\***subpolitus** Townes. N. Y., Conn., Que., Minn. in Alleghanian Fauna.

*Cubocephalus subpolitus* Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 35, 40, 120. ♂, ♀.

\***tincticoxis** Townes. B. C., Oreg., Calif., Colo.

*Cubocephalus tincticoxis* Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 31, 55. ♂.

**vultus** (Cresson). Syn. of **pallidus pallidus** (Cresson).

\*Genus **PLEOLOPHUS** Townes

**Pleolophus** Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 7, 9, 10, 223.

Type: "*Phygadeuon basizonus* Gravenhorst, as interpreted in this publication." Orig. desig.

Place after **Cubocephalus** Ratzeburg, p. 255.

\***annulosus** Townes. Maine, N. Y., Mich.

*Pleolophus annulosus* Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 224, 226. ♂.

\***astriectus** Townes. Maine, N. H., Conn., Mass., N. Y., Mich., Alaska.

*Pleolophus astriectus* Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 224, 226, 242. ♂, ♀.

**basizonus** (Gravenhorst). N. B., Ont., Mich. Host: *Neodiprion nanulus* Schedl. Transf. from *Aptesis* Foerster (*teste* Townes, 1962. In Townes and Gupta, p. 235). Misspelled *basizonia* in Catalog.

Biology: Finlayson, 1960. Canad. Ent. 92 (1): 33.—Griffiths, 1961. Canad. Ent. 93 (11): 1005-1010.

\***borrori** Townes. Maine (Lincoln Co.).

*Pleolophus borrori* Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 225, 228. ♀.

\***clypealis** Townes. Alaska (Nome).

*Pleolophus clypealis* Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 224, 242. ♂.

\***contractus** Townes. B. C., Wash., Oreg., Calif. Hosts: *Pristiphora erichsonii* (Htg.), ?*Lambdina fiscellaria lugubrosa* (Hlst.).

**Pleolophus contractus** Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 225, 237. ♂, ♀.

\***coriaceus** Townes. Sask., Alta.

**Pleolophus coriaceus** Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 225, 229. ♂.

\***furvus** Townes. Colo. (Rocky Mt. N. P.).

**Pleolophus furvus** Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 225, 228. ♂.

\***grossus** Townes, N. Y., N. J., Pa., Md., D. C., N. C., Mich., Kans., N. Dak., B. C., Wash. Oreg.

**Pleolophus grossus** Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 225, 226, 229. ♂, ♀.

**indistinctus** (Provancher). Sask., Man., Ont., Iowa, N. C. Hosts: *Neodiprion abbotii* (Leach), *N. pratti banksianae* Rohw., *N. nanulus* Schedl, *N. sertifer* (Geof.), *N. swaini* Midd., *N. virginianus* Rohw., *N. sp.*, *Pristiphora geniculata* (Htg.). Transf. from **Aptesis** Foerster, p. 255 (teste Townes, 1962. In Townes and Gupta, p. 238).

Biology: Finlayson, 1960. Canad. Ent. 92 (1): 32.

\***nigribasis** Townes. Colo., N. Mex.

**Pleolophus nigribasis** Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 225, 237. ♂.

\***pilatus** Townes. Labrador, Mich., Minn.

**Pleolophus pilatus** Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 224, 225, 227. ♂, ♀.

**rubrocinctus rubrocinctus** (Provancher). Ont., N. H., Mass., Ohio. Transf. from **Aptesis** Foerster (teste Townes 1962. In Townes and Gupta, p. 231, 232).

\***rubrocinctus rufifemur** Townes. Alaska, B. C., Alta., Wash., Oreg., Calif., Idaho, Mont., Wyo.

**Pleolophus rubrocinctus rufifemur** Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 231, 233. ♂, ♀.

**Aptesis rubrocincta** n. subsp. Transf. from **Aptesis** Foerster, p. 255.

#### \*Genus RHYTURA Townes

**Rhytura** Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 9, 10, 244.

Type: **Rhytura pendens** Townes. Orig. desig. and by monotypy.

Place before **Aptesis** Foerster, p. 255.

\***pendens** Townes. Que. and Ont. south to Ga., west to Minn.

**Rhytura pendens** Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 244. ♂, ♀.

#### Genus APTESIS Foerster, p. 255

\***Oxytaenia** Foerster, 1868. Naturh. Ver. Rheinlande Verh. 25: 182. Syn. by Townes, 1962. In Townes and Gupta, p. 246.

Type: (**Oxytaenia rufolineata** Cameron) = **barda** (Cresson). Included by Cameron, 1904.

\***albifrons** Townes. N. Y. (Rome).

**Aptesis albifrons** Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 248, 267. ♂.

\***alpestris** Townes. B. C. to Calif., Idaho, Colo., Ariz.

**Aptesis alpestris** Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 250, 255. ♂, ♀.



\**anaulus* Townes.

*Aptesis anaulus* Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 248, 272. ♂.

*arridens* (Gravenhorst). Transf. to *Opidnus* Foerster, p. 256.

\**atrox* Townes. Ohio (West Unity).

*Aptesis atrox* Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 249, 269. ♂.

\**barda carolina* Townes. Que. to N. C. west to Mich., Iowa, Kans. *A. barda* barda Cresson occurs in Mexico.

*Aptesis barda carolina* Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 270, 271. ♂, ♀.

*basizonia* [sic!] (Gravenhorst). Transf. to \**Pleolophus* Townes.

\**breviaria* Townes. N. Y., Ohio, Mich., Minn.

*Aptesis breviaria* Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 249, 250, 253. ♂, ♀.

\**catulus* Townes. N. Y. to N. C., Kans.

*Aptesis catulus* Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 249, 250, 263. ♂, ♀.

\**fastigata* Townes. Alta., Oreg., Calif., Wyo.

*Aptesis fastigata* Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 249, 250, 267. ♂, ♀.

\**fuscitibia* Townes. Maine, Mass., R. I., N. Y., N. C., Mich.

*Aptesis fuscitibia* Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 249, 251, 262. ♂, ♀.

\**gracilis* Townes. Alta., Mich.

*Aptesis gracilis* Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 249, 251. ♂.

\**incompta* Townes. S. C. (Cleveland)

*Aptesis incompta* Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 249, 251, 265. ♂, ♀.

\**inculta* Townes. Que. to N. C. west to Mich.

*Aptesis inculta* Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 249, 250, 257. ♂, ♀.

*indistincta* (Provancher). Transf. to \**Pleolophus* Townes.

*iridescens* (Cresson). Transf. to *Schenkia* Foerster, p. 257.

\**lissopleuris* Townes. N. C. (Mt. Pisgah).

*Aptesis lissopleuris* Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 251, 257. ♀.

*rubrocincta rubrocincta* (Provancher). Transf. to \**Pleolophus* Townes.

\**scabra* Townes. Md. (Glen Echo).

*Aptesis scabra* Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 251, 266. ♀.

\**segnis femorata* Townes. Alta., Sask., Calif., Colo., Wyo.

*Aptesis segnis femorata* Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 260. ♂, ♀.

*segnis segnis* (Provancher), changed status. Que. and Mich. to S. C. Reduced to subsp. rank (*teste* Townes and Gupta, 1962, pp. 260, 261).

*Aptesis tenthredinarum* (Rohwer). (Syn. *teste* Townes, 1962. In Townes and Gupta, 1962, p. 261.)

\**subguttata* (Gravenhorst). Que., Europe. Host: *Diprion hercyniae* (Htg.).

*Cryptus subguttatus* Gravenhorst, 1829. Ichn. Europaea, v. 2, p. 610. ♂.

Biology: Finlayson, 1960. Canad. Ent. 92 (12): 931, 932 (larva).

Taxonomy: Townes in Townes and Gupta, 1962. Amer. Ent. Inst. Mem. pp. 247, 248.

*tenthredinarum* (Rohwer). Syn. of *segnis segnis* (Provancher).

\**verrucata* Townes. Maine, N. H., N. Y., Ohio, Mich.

*Aptesis verrucata* Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 249, 250, 252. ♂, ♀.

\**yosemite* Townes. Calif., Wyo.

*Aptesis yosemite* Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 250, 254. ♂.

Genus **MEGAPLECTES** Foerster, pp. 255–256

*monticola blakei* (Cresson). Yukon, N. W. T., and B. C. to Labrador and N. S. south to Oreg. and Pa., and Mts. of N. C.

\**monticola dentatus* Uchida. Alaska, Yukon (Dawson); Japan.

*Megaplectes monticola* var. *dentata* Uchida, 1930. Hokkaido Imp. Univ. Faculty Agr. Jour, 25: 304. ♂, ♀.

Genus **OPIDNUS** Foerster, p. 256

\**Ophidnus* Viereck, 1914. U. S. Natl. Mus. Bul. 83: 105. Misspelling.

Syn. of *Oresbius* Marshall, 1867, *teste* Townes, Momoi, and Townes, 1965, p. 157.

*albicoxus albicoxus* (Provancher), changed status. Host: *Pristiphora erichsonii* (Htg.). Reduced to subsp. rank (*teste* Townes, 1962. In Townes and Gupta, p. 141).

*albicoxus schoberi* Dalla Torre, changed status. Reduced to subsp. rank (*teste* Townes, 1962. In Townes and Gupta, p. 141).

\**Cryptus koebelei* Rohwer, 1917. Proc., U. S. Natl. Mus. 53: 158. N. name for *ferrugineus* Ashm. *nec* Smith; unnecessarily proposed. (*Teste* Townes, 1962. In Townes and Gupta, p. 141.)

\**alexanderi* Townes. Que., Vt., Alta.

*Opidnus alexanderi* Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 127, 131, 145. ♂, ♀.

\**aniptus* Townes. Alaska, Calif., Colo.

*Opidnus aniptus* Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 127, 131, 151. ♂, ♀.

*arridens* (Gravenhorst). N. H., Mass., N. Y., Ont., Mich. Transf. from *Aptesis* Foerster, p. 255 (*teste* Townes, 1962. In Townes and Gupta, p. 131).

\**ciliatus* Townes. Que. (Payne Bay).

*Opidnus ciliatus* Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 129, 164. ♀.

\**cognatus* Townes. B. C., Alta., Wash., Oreg., Calif., Colo., N.S., Que., N. H., N. Y.

*Opidnus cognatus* Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 128, 131, 148. ♂, ♀.

*dorsator* (Ashmead). Alaska (Nome).

\**fulvibasis* Townes. Minn. to Que. south to N. C.

*Opidnus fulvibasis* Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 127, 130, 144. ♂, ♀.

\**lindrothi* Townes. Alaska (Umiat).

*Opidnus lindrothi* Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 130, 158. ♀.

\**major* Townes. N. H., Que.

*Opidnus major* Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 129, 155. ♂.

\**mucronatus* Townes. Maine, Mass., N. Y., Mich.

*Opidnus mucronatus* Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 127, 131, 150. ♂, ♀.

*nigriceps* (Provancher). Syn. of *tegularis* (Provancher).

*nivarius* (Brues). Alaska (Point Barrow).

Taxonomy: Townes, 1962. In Townes and Gupta, pp. 128, 130, 158 (first descr. ♂).

*orbitalis* (Provancher). Syn. of *tegularis* (Provancher).

\**orbitus* Townes. N. H., Yukon.

*Opidnus orbitus* Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 129, 130, 157. ♂, ♀.

\**oresbius* Townes. Wash., B. C.

*Opidnus oresbius* Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 128, 136. ♂.

\**parallelus* Townes. N. H., N. Y., Que., Man., Colo.

*Opidnus parallelus* Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 127, 130, 165. ♂, ♀.

\**quadriceps* Townes. Alaska, N. W. T.

*Opidnus quadriceps* Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 128, 129, 168. ♂, ♀.

\**rufinotum* Townes. Alaska.

*Opidnus rufinotum* Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 128, 161. ♂.

*schoberi* (Dalla Torre). Subsp. of *albicoxus* (Provancher).

\**sublaevis miltomerus* Townes. Wash. (Mt. Rainier).

*Opidnus sublaevis miltomerus* Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 133, 134, 135. ♂.

\**sublaevis sublaevis* Townes. Colo., Wyo.

*Opidnus sublaevis sublaevis* Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 126, 129, 133, 134. ♂, ♀.

\**taeniatus* Townes. N. H., Que., N. W. T., Yukon.

*Opidnus taeniatus* Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 128, 130, 154. ♂, ♀.

*tegularis* (Provancher). Minn. to N. S. and Pa.; Wyo., Colo. Host: *Pristiphora erichsonii* (Htg.).

*Ischnus placidus* Provancher. Transf. from syn. *Schenkia graminicola* *graminicola* (Gravenhorst).

*Phygadeuon orbitalis* Provancher.

*Phygadeuon nigriceps* Provancher.

(All syn. *teste* Townes and Gupta, 1962, p. 146.)

\**teres* Townes. Alaska, Yukon.

*Opidnus teres* Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 128, 129, 167. ♂, ♀.

\**tibialis* Townes. Alaska, Yukon, N. W. T., Que.

*Opidnus tibialis* Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 128, 130, 163. ♂, ♀.

*trifasciatus* (Ashmead). Yukon, N. W. T., Que.

\**tsugae infulatus* Townes. N. C., Labrador.

*Opidnus tsugae infulatus* Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 137, 140. ♂, ♀.

\**tsugae interior* Townes. Ariz., Colo., Wyo., Idaho, Alta.

*Opidnus tsugae interior* Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 137, 139. ♂, ♀.

\**tsugae ruficoxa* Townes. Calif. Host: Cocoon on *Abies concolor*.

*Opidnus tsugae ruficoxa* Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 137, 138. ♂, ♀.

*tsugae tsugae* (Cushman), changed status. Host: *Neodiprion* sp. Reduced to subsp. rank (*teste* Townes, 1962. In Townes and Gupta, p. 137).

\***tumulus** Townes. N. W. T., Yukon, Alaska.

*Opidnus tumulus* Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 129, 160. ♂.

\***vockerothi** Townes. Que. (Great Whale River).

*Opidnus vockerothi* Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 166. ♂, ♀.

\***vultuosus** Townes. Transcont. in Canadian zone.

*Opidnus vultuosus* Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 127, 130, 152. ♂, ♀.

Genus **SCHENKIA** Foerster, pp. 256–257

\***amphileuca** Townes and Gupta. N. Y., Mich., Minn.

*Schenkia amphileuca* Townes and Gupta, 1962. Amer. Ent. Inst. Mem. 2: 200, 201. ♂, ♀.

**brevicauda brevicauda** (Ashmead). Syn. of **iridescens iridescens** (Cresson).

**graminicola graminicola** (Gravenhorst). Yukon; Europe.

\**Cryptus brevicornis* Gravenhorst, 1829. Ichn. Europaea, v. 2, p. 511. ♂.

\**Cryptus humilis* Gravenhorst, 1829. Ichn. Europaea, v. 2, p. 604. ♂.

*Ischnus placidus* Provancher. Transf. to syn. of *Opidnus tegularis* (Provancher), p. 256.

*Phygadeuon rectus* Provancher. Valid subspecies of **graminicola**.

*Phaeogenes tuberculifer* Provancher, 1882. Syn. of **graminicola recta** (Provancher).

*Cryptus pubescens* Provancher, 1886. Syn. of **graminicola recta** (Provancher).

*Cryptus hechfellneri* Dalla Torre, 1902. Syn. of **graminicola recta** (Provancher).

\***graminicola hesperus** Townes and Gupta. B. C., Wash., Oreg.

*Schenkia graminicola hesperus* Townes and Gupta, 1962. Amer. Ent. Inst. Mem. 2: 204, 207. ♂, ♀.

**graminicola recta** (Provancher). changed status. B. C. to Labrador and Que.; south to Minn., Mich., N. Y.

*Phaeogenes tuberculifer* Provancher (syn. *teste* Townes and Gupta, 1962, p. 205).

*Cryptus pubescens* Provancher (syn. *teste* Townes and Gupta, 1962, p. 205).

*Cryptus hechfellneri* Dalla Torre (syn. *teste* Townes and Gupta, 1962, p. 205).

**iridescens iridescens** (Cresson), changed status. Ont. and N. S. to Ga. west to Mich. and Tenn. Transf. from *Aptesis* Foerster, p. 255 and reduced to subsp. rank (*teste* Townes and Gupta, 1962, pp. 210, 214).

*Cryptus brevicauda* Ashmead (syn. by Townes and Gupta, 1962, p. 214).

\***iridescens melanops** Townes and Gupta. B. C., Wash., Oreg., ?Idaho.

*Schenkia iridescens melanops* Townes and Gupta, 1962. Amer. Ent. Inst. Mem. 2: 211, 216. ♂, ♀.

\***iridescens oreas** Townes and Gupta. Alaska to Labrador south to Oreg., Colo., and Mich.

*Schenkia iridescens oreas* Townes and Gupta, 1962. Amer. Ent. Inst. Mem. 2: 211, 212. ♂, ♀.

\***iridescens pumila** Townes and Gupta. Alaska to Wash., east to Que. and N. H., also Colo.

*Schenkia iridescens pumila* Townes and Gupta, 1962. Amer. Ent. Inst. Mem. 2: 211. ♂, ♀.

\***leucopus** Townes and Gupta. Mich., Ohio, N. Y., N. J., S. C.

*Schenkia leucopus* Townes and Gupta, 1962. Amer. Ent. Inst. Mem. 2: 200, 201, 217. ♂, ♀.

\***lonchura** Townes and Gupta. Yukon.

*Schenkia lonchura* Townes and Gupta, 1962. Amer. Ent. Inst. Mem. 2: 201, 217. ♀.

\***parallela evittata** Townes and Gupta. Wash.

*Schenkia parallela evittata* Townes and Gupta, 1962. Amer. Ent. Inst. Mem. 2: 208, 209. .

\***parallela parallela** Townes and Gupta. Ont. to S. C., Sask.

*Schenkia parallela parallela* Townes and Gupta, 1962. Amer. Ent. Inst. Mem. 2: 200, 207, 208. ♂, ♀.

Genus **GIRAUDIA** Foerster, p. 257

**ferruginea** (Cushman). Ont. to Md. and D. C. west to Mich. in Carolinian Fauna. Host: *Tomostethus multicinctus* Roh. Valid species. Removed from syn. of **plana** (Provancher (*teste* Townes and Gupta, 1962, p. 186).

\***fulva fulva** Townes and Gupta. Wash., Oreg., Calif.

*Giraudia fulva fulva* Townes and Gupta, 1962. Amer. Ent. Inst. Mem. 2, pp. 184, 185, 189. ♂, ♀.

\***fulva nigrithorax** Townes and Gupta. B. C., Alta., Idaho, Oreg., Utah, Colo., N. Mex.

*Giraudia fulva nigrithorax* Townes and Gupta, 1962. Amer. Inst. Mem. 2: 189, 190. ♂, ♀.

\***leucopsis** Townes and Gupta. Calif.

*Giraudia leucopsis* Townes and Gupta, 1962. Amer. Ent. Inst. Mem. 2: 184, 196. ♂.

\***minor** Townes and Gupta. N. C., S. C.

*Giraudia minor* Townes and Gupta, 1962. Amer. Ent. Inst. Mem. 2: 184, 185, 196. ♂, ♀.

**plana** (Provancher). Ont., Maine, Pa., N. C., S. C., Ga., Ohio, Mich., Minn., Iowa. Delete host record.

*Aptesis ferruginea* Cushman, 1935. Delete from syn., a valid species.

?*Mesostenus ruficoxus* Provancher. Transf. from syn. of **Cubocephalus annulatus** (Cresson) (*teste* Townes and Gupta, 1962, p. 192).

?*Mesostenus provancheri* Dalla Torre. Transf. from syn. of **C. annulatus** (Cresson) (*teste* Townes and Gupta, 1962, p. 192).

\***punctifera** Townes and Gupta. Ont. and Que. to Ga., west to Mich. and Wis.

*Giraudia punctifera* Townes and Gupta, 1962. Amer. Inst. Mem. 2: 184, 185, 194. ♂, ♀.

**rufa** (Provancher). Que. to N. C. west to Ont., Minn. in Alleghanian Fauna.

\***semiflava** Townes and Gupta. Que., Maine, N. Y., Mich., N. Mex.

*Giraudia semiflava* Townes and Gupta, 1962. Amer. Ent. Inst. Mem. 2: 184, 185, 191. ♂, ♀.

\***subaequalis** Townes and Gupta. N. Y., N. C., S. C., Ga.

*Giraudia subaequalis* Townes and Gupta, 1962. Amer. Ent. Inst. Mem. 2: 184, 185, 197. ♂, ♀.

Genus **POLYTRIBAX** Foerster, p. 257

**Plesignathus** Foerster, 1868. Transf. from syn. of **Phygadeuon** Gravenhorst, p. 248 (*teste* Perkins, 1962, p. 446). Change type citation to:

Type: *Phygadeuon fulvescens* Cresson. Included by Ashmead, in Smith, 1900 (June).

\***Neleophron** Foerster, 1868. Naturh. Ver. Rhinelande Verh. 25: 184. No species. (Syn. *teste* Perkins, 1962, p. 438.)

Type: *Cryptus arrogans* Gravenhorst. Included and desig. by Perkins, 1962.

\**Epiphobus* Foerster, 1868. Naturh. Ver. Rheinlande 25: 183. No species. (Syn. *teste* Townes and Gupta, 1962, p. 170.)

Type: *Cryptus rufipes* Gravenhorst. Included and design. by Townes, 1962.

*Steriphocryptus* Cameron, 1903. Transf. from syn. of *Trachysphyrus* Haliday, p. 259. (Syn. *teste* Townes, Townes and Gupta, 1961, p. 137.)

\**Chasmocryptus* Uchida, 1936. Ins. Mats. 11: 16. (Syn. *teste* Townes, 1957, Ent. Soc. Wash. Proc. 59: 103.)

Type: (*Plectocryptus hokkaidensis* Uchida) = *penetrator* (Smith). Orig. design.

*contiguus* (Cresson). N. S., Ont., N. C., Ala., Minn., N. Dak., Nebr., Kans.

*crotchii crotchii* (Cresson), changed status. Transcont. in Canad. and north. Transit. Zones. Reduced to subsp. rank (*teste* Townes and Gupta, 1962, pp. 176, 177).

\**crotchii fumipennis* Townes and Gupta. B. C., Calif., Ariz., Colo., N. Mex. (in Canadian Zone).

*Polytribax crotchii fumipennis* Townes and Gupta, 1962. Amer. Ent. Inst. Mem. 2, pp. 176, 179. ♂.

\**crotchii hesperus* Townes and Gupta. Calif., Oreg., B. C.

*Polytribax crotchii hesperus* Townes and Gupta, 1962. Amer. Ent. Inst. Mem. 2, pp. 176, 180. ♂.

*fulvescens* (Cresson). Wash., Oreg.

*pallescens* (Viereck). S. C., Ga.; Mexico. Host: ? *Diacrisia virginica* (F.).

#### Genus RHEMBOBIUS Foerster, pp. 257-258

\**Ulothymus* Foerster, 1868. Naturh. Ver. Rheinlande Verh. 25: 185. (Syn. *teste* Townes, Townes, and Gupta, 1961, p. 131; Perkins, 1962, p. 462.)

Type: *Ichneumon perscrutator* Thunberg. Included and designated by Perkins, 1962.

*abdominalis abdominalis* (Provancher). Alta. Host: ? *Xylota*.

\**abdominalis montanus* Townes and Gupta. Alaska, Alta., Sask., Idaho, ? Mont., S. Dak., Colo.

*Rhembobius abdominalis montanus* Townes and Gupta, 1962. Amer. Ent. Inst. Mem. 2: 275. ♂, ♀.

*abdominalis pacificus* (Harrington). Alaska, B. C., Oreg., Idaho.

\**parvus* Townes. Sask., Man., Mich.

*Rhembobius parvus* Townes, 1962. In Townes and Gupta, Amer. Ent. Inst. Mem. 2: 273. ♂, ♀.

#### Genus DEMOPHELES Foerster, p. 258

Change type citation to:

Type: (*Phygadeuon caliginosus* Gravenhorst ♀, not ♂) = *corruptor* (Taschenberg).

Townes places this genus in the Hemitelini (= *Gelini* Townes).

*corruptor maturus* (Provancher), changed status. Maine and Que. to Ga., west to Ont., Mich. ? Alta. Upper Austral. to Canad. Zones. Reduced to subsp. rank (*teste* Townes, 1963. Ent. Soc. Wash. Proc. 65 (1): 48).

\**corruptor rufatus* Townes. Wash., Colo., N. Mex.

*Demopheles corruptor rufatus* Townes, 1963. Ent. Soc. Wash. Proc. 65 (1): 48, 49. ♀.

#### Tribe SPHECOPHAGINI

Taxonomy: Townes and Townes, 1962. U. S. Natl. Mus. Bul. 216 (Pt. 3): 16, 20, 522-523 (Sphecophagina).

Genus *SPHECOPHAGA* Westwood, p. 258

*vesparum burra* (Cresson), changed status. Transcont. in Canad. and Transit. Zones. *S. vesparum vesparum* occurs in Europe. Reduced to subsp. rank (*teste* Townes and Townes, 1962, pp. 525, 526).

## Tribe CRYPTINI

(= *Mesostenini* of Catalog)

Revision: Townes and Townes, 1962. U. S. Natl. Mus. Bul. 216 (Pt. 3): I-VII, 1-602 (*Mesostenini*)

## \*Subtribe BARYCERATINA

Place as first subtribe of *Cryptini*, p. 258.

\*Genus *WHYMPERIA* Cameron

*Whymperia* Cameron, 1903. Entomologist 36: 122.

Type: *Whymperia carinifrons* Cameron. By monotypy.

\**Protocryptus* Schmiedeknecht, 1904. Opusc. Ichn., Band 2 (fasc. 6), p. 414. Syn. (*teste* Townes and Townes, 1962, p. 22).

Type: *Protocryptus grandis* Schmiedeknecht. Desig. by Viereck, 1914.

\**Zamansa* Viereck, 1912. U. S. Natl. Mus. Proc. 42: 647. Syn. with *Protocryptus* by Townes, 1946, Bol. Ent. Venezolana 5 (2): 33.

Type: *Cryptus aztecus* Cresson. By monotypy and orig. desig.

Place as first genus in subtribe *Baryceratina*, p. 258.

\**tricolor* Townes. Ariz.

*Whymperia tricolor* Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 22. ♀.

Genus *Christolia* Brullé, pp. 258-259

Syn. of *Baryceros* Gravenhorst, *infra*.

*Lamprocryptidea* Viereck. Delete from Catalog. A valid Neotrop. genus (*teste* Townes and Townes, 1962, p. 12).

*Haplomus* Szépligeti. Syn. of *Lamprocryptidea* Viereck (*teste* Townes and Townes, 1962, p. 12).

*Aplomiana* Strand. Syn. of *Lamprocryptidea* Viereck.

\*Genus *BARYCEROS* Gravenhorst

(= *Christolia* Brullé, pp. 258-259)

*Baryceros* Gravenhorst, 1829. Ichn. Europaea, v. 2, p. 777.

Type: *Baryceros guttatus* Gravenhorst. By monotypy.

*Christolia* Brullé. (Syn., *teste* Townes, 1961. Ent. Soc. Wash. Proc. 63 (3): 167.)

\**Neochristolia* Blanchard, 1936. Rev. Argentina de Ent. 1 (2): 40. (Syn. by Townes, *loc. cit. supra*, p. 167.)

Type: *Neochristolia eucleides* Blanchard. By monotypy and orig. desig.

*armatus* (Provancher). Syn. of *audax saundersi* (Cresson).

*audax audax* (Cresson), changed status. Mass., Conn., N. Y., Mich., Wis. south to S. C., Ala., Kans. Reduced to subsp. rank (*teste* Townes and Townes, 1962, pp. 27, 28).

\**Mesostenus exaptus* Cresson, 1878. Canad. Ent. 10: 208. ♀. (Syn. by Cushman, 1929. U. S. Natl. Mus. Proc. 74 (Art. 16): 25.)

*audax saundersi* (Cresson), changed status. Que., Ont., south to R. I., N. Y., Ohio, Mich. Reduced to subsp. rank (*teste* Townes and Townes, 1962, pp. 27, 29).

*Christolia armata* (Provancher) (syn. *teste* Townes, and Townes, 1962, p. 29).

*candidus* (Cresson).

*Christolia dumetorum* Townes (syn. *teste* Townes and Townes, 1962, p. 25).

*dumetorum* (Townes). Syn. of *candidus* (Cresson).

*fortis* (Cresson). Pa., Ohio, Mich., W. Va., Ga.

\**halli* Townes. Ariz.

*Baryceros halli* Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 24, 30. ♂.

*saundersi* (Cresson). Subsp. of *audax* (Cresson).

*texanus* (Ashmead). Va., N. C., Ind., Ky., Ark., Okla.; Mexico.

### \*Subtribe CRYPTINA

(= *Mesostenina* Townes)

Place as second subtribe of *Cryptini*, p. 259

Genus *CRYPTUS* Fabricius, Sup. 1, p. 46

(= *Trachysphyrus* of Catalog, pp. 259–263)

*Meringopus* Foerster. Delete type citation and replace with: *Cryptus recreator* Fabricius. Included by Tschek, 1870 (*teste* Townes, Townes, and Gupta, 1961, p. 163).

*Itamoplex* Foerster. Change "Desig. by Viereck, 1914" to: Included by Ashmead in Smith, 1900.

\**Cosmiocryptus* Cameron, 1902. Amer. Ent. Soc. Trans. 28: 371.

Type: *Cosmiocryptus violaceipennis* Cameron. By monotypy.

*Steriphocryptus* Cameron, 1903. Transf. to syn. of *Polytribax* in (*Apte-sini*) = *Hemigasterini*, p. 257.

\**Buathra* Cameron, 1903. Ent. Soc. London, Trans. 1903: 233.

Type: *Buathra rufiventris* Cameron. By monotypy.

\**Plesiocryptus* Cameron, 1903. Ztschr. Syst. Hym. Dipt. 3: 299.

Type: *Plesiocryptus carinifrons* Cameron. By monotypy.

\**Bathycrisis* Cameron, 1905. Spolia Zeylanica 3: 96.

Type: *Bathycrisis striaticollis* Cameron. By monotypy.

\**Mesocryptus* Szépligeti, 1916. Mus. Nat. Hungarici Ann. 14: 251. Preocc.

Type: *Mesocryptus pulcherrimus* Szépligeti. By monotypy.

\**Pseudomesocryptus* Strand, 1917. Ent. Ztschr. 10: 137. N. name for *Mesocryptus*.

\**Nippocryptus* Uchida, 1936. Ins. Matsumurana 11: 3.

Type: (*Hemiteles suzukii* Matsumura) = *vittatorius* (Jurine). By monotypy.

\**Neocryptopteryx* Blanchard, 1947. Zool. Mus. Hist. Natl. Montevideo Comun. 2 (Pt. 42): 1.

Type: *Neocryptopteryx orientalis* Blanchard. By orig. desig.

Taxonomy: Townes, Townes and Gupta, 1961, pp. 163–164 (Generic syn.).

*albitarsis albitarsis* (Cresson). Hosts: *Heliothis zea* (Boddie); *Macronoctua onusta* Grt.

*Mesostenus tarsatus* Provancher. Transf. to *Mesostenus* Gravenhorst, p. 265, as questioned syn. of *temporalis* Townes.

\**albitarsis argentifrons* Cameron. Newfoundland to B. C. south to R. I., N. Y., Tex., and Calif.; Mexico, Costa Rica.

\**Cryptus bicolor* Smith, 1879. Descr. of N. sp. of Hym. in the Coll. Brit. Mus., p. 231. Preocc.

\**Cryptus monticola* Cameron, 1885. Biol. Cent.-Amer., Ins. Hym., v. 1, p. 203. Preocc.

*Cryptus argentifrons* Cameron, 1885. Biol. Cent.-Amer., Ins. Hym. 1: 204.

\**Cryptus eggeri* Dalla Torre, 1902. Cat. Hym., v. 3 (Pt. 2) p. 569. N. name for *bicolor* Smith.



*Trachysphyrus albitarsis coloradensis* (Ashmead).

*Trachysphyrus inornatus* (Pratt).

(All syn. *teste* Townes and Townes, 1962, pp. 248-249).

*albitarsis coloradensis* (Ashmead). Syn. of *albitarsis argentifrons* Cameron.

*albitarsis mutatus* Pratt, changed status.

*Cryptus mutatus* Pratt. Reduced to subsp. rank (*teste* Townes and Townes, 1962, pp. 244, 251).

*Cryptus curticaudus* Pratt (syn. *teste* Townes and Townes, 1962, p. 251).

*albitarsis rufovinctus* Pratt, changed status. B. C. Host: *Trichoplusia* sp.

*Cryptus rufovinctus* Pratt. Reduced to subsp. rank (*teste* Townes and Townes, 1962, pp. 244, 253).

*altonii* Dalla Torre. A subsp. of *laborator* (Thunberg).

*arcticus* Schiødte. N. W. T., Calif. (Arctic and Arctic-Alpine).

*aridus aridus* Pratt, changed status. B. C., Oreg., Calif., Colo. Reduced to subsp. rank (*teste* Townes and Townes, 1962, pp. 183, 229).

*aridus ocellaris* Pratt, changed status. Oreg., Calif. Reduced to subsp. rank (*teste* Townes and Townes, 1962, pp. 229, 230).

*associatus* Pratt. Syn. of *persimilis* Cresson.

*asymmetricus asymmetricus* Pratt, changed status. B. C. and Sask. south to Mts. of Calif. and Ariz. Reduced to subsp. rank (*teste* Townes and Townes, 1962, p. 206).

*asymmetricus mirabilis* Pratt, changed status. Reduced to subsp. rank (*teste* Townes and Townes, 1962, pp. 206, 207).

*bilobatus* Pratt. A subsp. of *symmetricus* Pratt.

*calescens robustus* Cresson, changed status. Alaska, Yukon, B. C. to Man. south to Calif. and N. Mex. in Canad. and Huds. Zones. Reduced to subsp. rank (*teste* Townes and Townes, 1962, p. 201). *C. calescens calescens* Gravenhorst is European.

*crassipes* Pratt. Transf. to *Reptatrix* Townes, *infra*.

*crassisculptus* Pratt. A subsp. of *rugosiscutum* Pratt.

*crassulus* Pratt. Mich.

*curticaudus* Pratt. Syn. of *albitarsis mutatus* Pratt.

*dirus* Cresson. B. C. and Idaho south to Calif. and Ariz.

*Cryptus nitschei* Dalla Torre. Remove from syn.; valid subsp. of *relativus* Cresson.

*dorsicarinatus* Pratt. Alaska, Alta., Mont., Colo.

*eleucopus* Walkley. Syn. of *relativus nitschei* Dalla Torre.

*Cryptus eleucopus* Walkley. Sup. 1, p. 46.

\**fasciatus* (Townes), n. comb. Ariz.

*Trachysphyrus fasciatus* Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 180, 183. ♂, ♀.

*flagellatus* Pratt. A subsp. of *rugosiscutum* Pratt.

*genatus* Pratt. Ariz., Utah.

*inornatus* Pratt. Syn. of *albitarsis argentifrons* Cameron.

*iroquois* Viereck. A subsp. of *moschator* (Fabricius).

\**krombeini* (Townes), n. comb. W. Va. (Lost River State Park, Hardy Co.).

*Trachysphyrus krombeini* Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 185, 243. ♀.

*laborator altonii* Dalla Torre, changed status. Host: *Melanolophia imitata* (Wlkr.). Reduced to subsp. rank (*teste* Townes and Townes, 1962, pp. 209, 210).

**laborator fabricii** Schiødte.

Taxonomy: Townes and Townes, 1962, pp. 214-215.

**laborator perplexus** Cresson, changed status. Reduced to subsp. rank (*teste* Townes and Townes, 1962, pp. 209, 213).**latigenalis** Pratt. Alta., Mont., Ont. Host: *Loxostege sticticalis* (L.).

Biology: Ulyett, 1949. Canad. Ent. 81: 285-299; 82: 1-11 (as *inornatus*).

Taxonomy: Townes and Townes, 1962, pp. 184, 242-243.

**leucopus** Ashmead. Syn. of **relativus nitschei** Dalla Torre.**\*lochmaius** (Townes), n. comb. Ariz.

*Trachysphyrus lochmaius* Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 183, 216. ♂, ♀.

**luctuosus luctuosus** Cresson, changed status. Reduced to subsp. rank (*teste* Townes and Townes, 1962, pp. 183, 221; also ♂ descr.). Other subsp. of *luctuosus* Cress. occur in Europe and Japan.**\*mentigus mentigus** (Townes), n. comb. Ariz.

*Trachysphyrus mentigus mentigus* Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3); 184, 234. ♂, ♀.

**\*mentigus rhodomerus** (Townes), n. comb. Alaska, Yukon, Wash. to Calif., Ariz., Utah, Colo., N. Mex.

*Trachysphyrus mentigus rhodomerus* Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 234, 235. ♂, ♀.

**\*mentigus rufator** (Townes), n. comb. Calif. (Blue Lake, Lassen Co.).

*Trachysphyrus mentigus rufator* Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 234, 235. ♀.

**mimicus** Pratt. A subsp. of **tejonensis** Cresson.**minimus** Pratt. Sask., N. Mex., Nev.**mirabilis** Pratt. A subsp. of **asymmetricus** Pratt.**moschator iroquois** (Viereck), changed status. N. J., Ohio, Mich. Reduced to subsp. rank (*teste* Townes and Townes, 1962, pp. 223, 224). *C. moschator moschator* (Fabricius) is European.**\*murorum** Tschek. Man., Calif.; Europe.

*Cryptus murorum* Tschek, 1872. Zool.-Bot. Gesell. Wien. Verhandl. 22: 234. ♂, ♀.

**mutatus** Pratt. A subsp. of **albitarsis** (Cresson).**ocellaris** Pratt. A subsp. of **aridus** Pratt.**pacificus** Cresson. B. C. to Calif. in Cand., Transit., U. Austral Zones.

*Cryptus punicus* Cresson. Remove from syn. A valid subsp. of **relativus** Cresson.

*Cryptus californicus* Ashmead. Syn. of **relativus punicus** Cresson.

**perplexus** Cresson. A subsp. of **laborator** (Thunberg).**persimilis** Cresson.

*Cryptus associatus* Pratt (syn. *teste* Townes and Townes, 1962, p. 237).

**recurvatus** Pratt. Calif., Tex.**relativus nitschei** Dalla Torre, changed status. B. C., Wash., Calif., Alta., Mont., Nev., Utah, Ariz., Colo., N. Mex. Host: *Aegeria tibialis* (Harr.). Reduced to subsp. rank (*teste* Townes and Townes, 1962, pp. 193, 195).

*Cryptus violaceipennis* Ashmead, preocc.

*Cryptus nitschei* Dalla Torre, n. name. Removed from syn. of **dirus** Cresson.

*Cryptus leucopus* Ashmead (syn. *teste* Townes and Townes, 1962, p. 195).

*Cryptus eleucopus* Walkley (syn. *teste* Townes and Townes, 1962, p. 195).

**relativus punicus** Cresson, changed status. B. C. to Calif., Nev. Removed from syn. of **pacifus** Cresson and reduced to subsp. rank (*teste* Townes and Townes, 1962, pp. 193, 197).

**Cryptus californicus** Ashmead (syn. *teste* Townes and Townes, 1962, p. 197).

**relativus relativus** Cresson, changed status. Reduced to subsp. rank (*teste* Townes and Townes, 1962, p. 193).

**robustus** Cresson. A subsp. of **calescens** Gravenhorst.

**rufopedibus** Pratt. Syn. of **tejonensis tejonensis** Cresson.

**rufovinctus** Pratt. A subsp. of **albitarsis** (Cresson).

\***rugifrons** (Townes), n. comb. Ariz., Calif.

**Trachysphyrus rugifrons** Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 184, 255. ♂, ♀.

**rugosiscutum crassisculptus** Pratt, changed status. Tex. Reduced to subsp. rank (*teste* Townes and Townes, 1962, pp. 226, 227).

**rugosiscutum flagellatus** Pratt, changed status. Mexico. Reduced to subsp. rank (*teste* Townes and Townes, 1962, pp. 226, 227).

**rugosiscutum rugosiscutum** Pratt, changed status. Reduced to subsp. rank (*teste* Townes and Townes, 1962, pp. 226, 228).

**rugulosus** Pratt. Syn. of **tejonensis mimicus** Pratt.

**ruralis** Pratt. B. C., Sask., Man., Idaho.

\***scapulatus** (Townes), n. comb. Calif.

**Trachysphyrus scapulatus** Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 184, 241. ♂, ♀.

**strigosus** Pratt. Oreg.

**symmetricus bilobatus** Pratt, changed status. Calif. in Canad. and Huds. Zones. Reduced to subsp. rank (*teste* Townes and Townes, 1962, pp. 204, 205).

**symmetricus symmetricus** Pratt, changed status. Mont., Colo. Reduced to subsp. rank (*teste* Townes and Townes, 1962, p. 204).

**tejonensis mimicus** Pratt, changed status. Alaska to Oreg. and Ariz., Alta., Utah, Colo., N. Mex. Reduced to subsp. rank (*teste* Townes and Townes, 1962, p. 190).

**Cryptus temporalis** Pratt. (Syn. *teste* Townes and Townes, 1962, p. 190.)

**Cryptus rugulosus** Pratt. (Syn. *teste* Townes and Townes, 1962, p. 190).

**tejonensis tejonensis** Cresson, changed status. Calif., Ariz., Wash. Reduced to subsp. rank (*teste* Townes and Townes, 1962, pp. 190, 191).

**Cryptus vancouverensis** Harrington. Remove from syn. A valid species.

**Cryptus rufopedibus** Pratt. (Syn. *teste* Townes and Townes, 1962, p. 191.)

**temporalis** Pratt. Syn. of **tejonensis mimicus** Pratt.

**vancouverensis** Harrington. B. C. to Calif. Host: *Malacosoma* sp. A valid sp. (*teste* Townes and Townes, 1962, pp. 181, 187).

\*Genus **LANUGO** Townes

**Lanugo** Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 35, 259, 536.

Type: **Cryptus retentor** Brullé. Orig. desig. (p. 536).

Place on page 263 of Catalog after **Cryptus** Fabricius.

\***bicincta** Townes. Kans. (Osborne).

**Lanugo bicincta** Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 261, 270. ♀.

\**brunnipennis* Townes. B. C. to Calif.

*Lanugo brunnipennis* Townes, 1962. *In* Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 260, 261, 275. ♂, ♀.

*cestus* (Say). Tenn. Transf. from *Compsocryptus* Ashmead, p. 263 (*teste* Townes and Townes, 1962, pp. 261, 262).

\**deserti* Townes. Calif., Ariz., Utah. Host: "Parasite of sawfly on *Pinus*."

*Lanugo deserti* Townes, 1962. *In* Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 260, 262, 268. ♂, ♀.

\**excincta* Townes. Kans., Colo., Utah, Ariz., N. Mex.

*Lanugo excincta* Townes, 1962. *In* Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 261, 272. ♂, ♀.

\**ferrugata* Townes. Tex.

*Lanugo ferrugata* Townes, 1962. *In* Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 260, 262, 263. ♂, ♀.

\**flavipennis* Townes. Ariz.

*Lanugo flavipennis* Townes, 1962. *In* Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 260, 261, 271. ♂, ♀.

\**longurius* Townes. Ariz. (Sabino Canyon, Santa Catalina Mts.).

*Lanugo longurius* Townes, 1962. *In* Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 262, 269. ♀.

\**picta* Townes. Ariz., Tex.; Mexico.

*Lanugo picta* Townes, 1962. *In* Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 260, 261, 266. ♂, ♀.

\**polita* Townes. Ariz.

*Lanugo polita* Townes, 1962. *In* Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 261, 271. ♀.

*retentor* (Brullé). Transf. from *Compsocryptus* Ashmead, p. 264 (*teste* Townes and Townes, 1962, pp. 260, 261, 264).

\**schlingeri* Townes. Calif. (nr. Quincy).

*Lanugo schlingeri* Townes, 1962. *In* Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 261, 262. ♀.

*sororia* (Cresson). Calif., Ariz.; Mexico. Transf. from *Compsocryptus* Ashmead, p. 264 (*teste* Townes and Townes, 1962, pp. 261, 273).

#### \*Genus REPTATRIX Townes

*Reptatrix* Townes, 1962. *In* Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 35, 276.

Type: *Cryptus crassipes* Pratt. Orig. desig. and by monotypy.

Place in Cryptini on page 263 before *Compsocryptus* Ashmead.

*crassipes* (Pratt). Wash. to Calif., Idaho, Utah, Wyo. Transf. from *Cryptus* Fabricius, p. 261 (*teste* Townes and Townes, 1962, p. 277).

#### Genus COMPSOCRYPTUS Ashmead, pp. 263-264

\**apicalis* Townes. B. C., Oreg., Calif., Idaho, Nev., Utah, Colo., N. Mex.

*Compsocryptus apicalis* Townes, 1962. *In* Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 280, 282, 291. ♂, ♀.

\**aridus* Townes. Idaho, Wyo., Colo., south to Calif. and N. Mex.

*Compsocryptus aridus* Townes, 1962. *In* Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 281, 282, 289. ♂, ♀.

*buccatus* (Cresson). Mexico.

*calipterus brevicornis* Cameron. Calif. Removed from syn. of *calipterus calipterus* (Say). A valid subsp. (*teste* Townes and Townes, 1962, pp. 286, 287, 288).

**calipterus calipterus** (Say). Okla., Tex. to Calif.; Mexico.

\***Cryptus fulvus** Taschenberg, 1876. Ztschr. Gesam. Naturw. 48 (or N.F. 14): 66. ♂. (Syn. *teste* Townes and Townes, 1962, p. 287.)

\***Ichneumon munerosus** Cameron, 1885. Biol. Cent.-Amer. Ins., Hym. v. 1, p. 159. ♂. (Syn. *teste* Townes and Townes, 1962, p. 287.)

**Campsocryptus** (!) **brevicornis** Cameron, 1903. Remove from syn. A valid subsp. of **calipterus** (Say).

**cestus** (Say). Transf. to **Lanugo** Townes.

**crotchii** (Cresson). Calif.

**fasciipennis** (Brullé). Fla.

Taxonomy: Townes and Townes, 1962, pp. 279, 281, 282-283 (lectotype desig.).

**fletcheri** (Provancher). B. C., Oreg., Calif., Idaho, Utah.

\***pallens** Townes. Oreg., Calif., Idaho, Utah.

**Compsocryptus pallens** Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 281, 282, 293. ♂, ♀.

**purpuripennis** (Cresson). B. C.

**resolutus resolutus** (Cresson), changed status. Calif. Reduced to subsp. rank (*teste* Townes and Townes, 1962, pp. 303, 305).

\***resolutus subfasciatus** Townes. Alta., south to Colo., west to Wash. and Calif.

**Compsocryptus resolutus subfasciatus** Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 303. ♂, ♀.

**retentor** (Brullé). Transf. to **Lanugo** Townes.

**sororius** (Cresson). Transf. to **Lanugo** Townes.

\***texensis** Townes. Kans., Okla., Tex.

**Compsocryptus texensis** Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 280, 281, 283. ♂, ♀.

\***tricinctus** Townes. Calif., ?Ga.

**Compsocryptus tricinctus** Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 280, 281, 295. ♂, ♀.

**turbatus** (Cresson). Oreg., Idaho, Utah.

\***unicolor** Townes. Calif.

**Compsocryptus unicolor** Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 280, 282, 297. ♂, ♀.

Genus **PYCNOCRYPTUS** Thomson, p. 264

\***alexanderi** Townes. Vt. (Lake Willoughby).

**Pycnocyrtus alexanderi** Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 126, 128. ♂.

**director** (Thunberg). Colo.

\***freemani** Townes. N. B., Alta., Alaska.

**Pycnocyrtus freemani** Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 126, 127. ♀.

\***platyaspis** Townes. Que., Man., Wyo.

**Pycnocyrtus platyaspis** Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 126, 127. ♀.

Genus **MESOSTENUS** Gravenhorst, pp. 264-265

\***Unlima** Cameron, 1902. Ann. Mag. Nat. Hist., (Ser. 7) 9: 208. (Syn. *teste* Uchida, 1930, Hokkaido Imp. Univ. Fac. Agr. Jour. 25 (Pt. 4): 317).

Type: **Unlima penetralis** Cameron. By monotypy.

**albinotatus promptus** Cresson, changed status. *M. albinotatus albinotatus* Gravenhorst is European. Reduced to subsp. rank (*teste* Townes and Townes, 1962, pp. 438, 439).

**angustus** Townes. Carolinian fauna.

\***clitellatus** Townes. N. S., Que., to Va., west to Minn., Kans., and Tex., also Utah, B. C. Host: *Pyrausta futilalis* (Led.).

**Mesostenus clitellatus** Townes, 1962. *In* Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 436, 437, 447. ♂, ♀.

**eisenii** Ashmead. D. C., N. C., S. C., Ohio, Tex.; Mexico.

**gracilis** Cresson. N. S., Que., Ont., B. C., Wash.; Baja California.

\***liogaster** Townes. N. W. T., Sask., B. C., Oreg., Idaho, Wyo., Calif.; Mexico.

**Mesostenus liogaster** Townes, 1962. *In* Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 435, 437, 440. ♂, ♀.

**longicaudis** Cresson. Transcont. in U. Austr. and L. Austr. Zones; Mexico.

**reliquus** Cresson. Transf. to **Chamula** Townes.

\***sicarius** Townes. N. C., Tex., Mont., Colo., Alta., Ariz., Calif.; Mexico.

**Mesostenus sicarius** Townes, 1962. *In* Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 436, 437, 448. ♂, ♀.

\***temporalis** Townes. Que., Maine, Ont., N. Y., Mich., Iowa, S. Dak.

?**Mesostenus tarsatus** Provancher, 1879. Transf. from syn. of **Cryptus albitarsis albitarsis** (Cresson) (*teste* Towne and Townes, 1962, p. 441).

**Mesostenus temporalis** Townes, 1962. *In* Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 435, 436, 441. ♂, ♀.

**thoracicus** Cresson. Transcont. Hosts: *Acrobasis betulella* Hulst; *Macrobots theseusalis* (Wlkr.), *Mineola* sp.

#### Genus POLYCYRTUS Spinola, p. 265

\***Cryptanuridimorpha** Viereck, 1913. U. S. Natl. Mus. Proc. 46: 369.

Type: **Cryptanuridimorpha elegans** Viereck. Orig. desig.

\***Cryptopterigimorpha** Viereck, 1913. U. S. Natl. Mus. Proc. 46: 371.

Type: **Cryptopterigimorpha tubulifera** Viereck. Orig. desig.

\***Polycyrtimorpha** Viereck, 1913. U. S. Natl. Mus. Proc. 46: 383.

Type: **Polycyrtimorpha amoena** Viereck. Orig. desig.

Taxonomy: Townes and Townes, 1962, pp. 14, 459.

**neglectus** Cushman. Ohio.

**Polycyrtus** subgenus **Polycyrtus** Spinola, p. 265, Sup. 1, p. 46

Delete from catalog and Supplement 1.

#### Genus CRYPTANURA Brullé, p. 265

**banchiformis** (Megerle). N. Y. to Fla., west to Mich. and Tex. Transf. from Unplaced Species, p. 408 (*teste* Townes and Townes, 1962, p. 427).

**Mesostenus spinarius** Brullé (syn. by Townes and Townes, 1962, p. 427).

Biology: Townes and Townes, 1962, pp. 428-429.

\***compacta** (Cresson). Tex.; Mexico, Honduras.

**Mesostenus (Mesostenus) compactus** Cresson, 1873. [Phila.] Acad. Nat. Sci. Proc. 1873: 153. ♀.

\***Cryptanura planiscutellata** Cushman, 1945. U. S. Natl. Mus. Proc. 96: 143, 152, 175. ♀. (Syn. *teste* Townes, 1946, Bol. Ent. Venezolana 5 (2): 35.)

**septentrionalis** Cushman. N. Y., Pa., D. C., Va., N. C., S. C., Tenn., La.

**spinaria** Brullé. Syn. of **banchiformis** (Megerle).

#### \*Genus CHAMULA Townes

**Chamula** Townes, 1962. *In* Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 36, 430.

Type: **Mesostenus (Polycyrtus) reliquus** Cresson. Orig. desig.

Place in Cryptini after **Cryptanura** Brullé, p. 265.

\***reliqua** (Cresson). Transf. from **Mesostenus** Gravenhorst (*teste* Townes and Townes, 1962, p. 431).

**\*Genus CAMERA Townes**

*Camera* Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3) : 36, 432.

Type: *Mesostenus euryaspis* Cameron. Orig. desig.

Place in *Cryptini* on page 265 before *Hidryta* Foerster.

**\*euryaspis** (Cameron). Tex.

*Mesostenus euryaspis* Cameron, 1885. Biol. Cent.-Amer., Ins., Hym. v. 1, p. 226. ♀.

**Genus HIDRYTA Foerster, pp. 265-266**

*Hidryta* Foerster. Change type citation to (*Brachycryptus erythrocerus* Thomson) = *frater* (Cresson).

*Brachycryptus* Thomson. Change type citation to (*Brachycryptus erythrocerus* Thomson) = *frater* (Cresson).

**\*Euthycryptus** Jussel, 1907. Festschr. zum 50 jähr. Bestande zugleich 44. Jahresh. über das Jahr 1906, Vorarlberger Landesmuseum Bregenz, p. 71 (syn. *teste* Townes and Townes, 1962, p. 318).

Type: *Euthycryptus scrobiculifer* Jussel. By monotypy.

*frater* (Cresson). Transcont. in Canad. and Transit. Zones; Eurasia.

**\*Brachycryptus erythrocerus** Thomson, 1873. Opusc. Ent. fasc. 5, p. 488. ♀. (Syn. *teste* Townes and Townes, 1962, p. 318, 319.)

**nigricoxus** (Provancher). N. S., Ont., N. J., Pa., N. C., Mich., Minn.

**Genus TRYCHOSIS Foerster, p. 266**

*Trychosis* Foerster. Change type citation to: (*Cryptus titillator* Gravenhorst) = *Trychosis ambigua* (Tschek). Desig. by Schmiedeknecht, 1890 (*teste* Townes and Townes, 1962, p. 333; Perkins, 1962, pp. 460-461).

**albicaligata** (Walsh). Conn., N. Y., Md., D. C., Va., Ind., Kans., Tex.

**albisoletus** (Walsh). Transf. to *Idiolispa* Foerster.

**albitarsis albitarsis** (Cresson), changed status. Newfoundland, Que., Ont., Maine, N. H., Vt., Mass., N. Y., Md., Va., Mich., Kans. Reduced to subsp. rank (*teste* Townes and Townes, 1962, p. 359).

**\*albitarsis peratra** Townes. B. C. to Calif., Idaho.

*Trychosis albitarsis peratra* Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3) : 358, 359. ♂, ♀.

**\*anagnus** Townes. Transcont. in Transit. and Canad. Zones.

*Trychosis anagnus* Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3) : 335, 337, 376. ♂, ♀.

**\*apicalis** Townes. R. I., N. Y., Pa., Md., Va., Fla., Tenn., Ohio, Mich., Ill., Minn.

*Trychosis apicalis* Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3) : 336, 338, 347. ♂, ♀.

**\*atorubens** Townes. Colo., Ariz., Nev., Calif.

*Trychosis atorubens* Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3) : 336, 337, 369. ♂, ♀.

**\*coxalis** Townes. R. I. and N. Y. to S. C., west to Mich., Ala.

*Trychosis coxalis* Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3) : 335, 337, 346. ♂, ♀.

**\*cyperia** Townes. Transcont. in Canad. and Huds. Zones.

*Trychosis cyperia* Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3) : 335, 336, 373. ♂, ♀.

**\*depilis** Townes. B. C. to Calif., Idaho, Wyo., Utah.

*Trychosis depilis* Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3) : 336, 338, 368. ♂, ♀.

**exulans** (Cresson). Ont., Mass. to N. C., La., west to Mich., Kans., Tex.

\**fuscata* Townes. Labrador, Que., Maine.

*Trychosis fuscata* Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 336, 337, 356. ♂, ♀.

*fusiformis* (Provancher). Syn. of *montivaga montivaga* (Provancher).

\**kathrynae* Townes. Que. to Sask., south to N. J., W. Va., Mich., Wis., Minn.

*Trychosis kathrynae* Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 335, 337, 363. ♂, ♀.

\**latidens* Townes. Que. and N. Y. to Yukon, B. C., Wash., Oreg.; also Colo.

*Trychosis latidens* Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 336, 338, 355. ♂, ♀.

\**montivaga austrina* Townes. N. Mex. (Tajique).

*Trychosis montivaga austrina* Townes, 1962. U. S. Natl. Mus. Bul. 216 (Pt. 3): 336, 338, 341. ♂, ♀.

*montivaga montivaga* (Provancher). changed status. Transcont. in north U. S. and south. Canad. Reduced to subsp. rank (*teste* Townes and Townes, 1962, pp. 335, 338, 339).

*Trychosis fusiformis* (Provancher) (syn. by Townes and Townes, 1962, p. 339).

\**nigripes* Townes. Tex.

*Trychosis nigripes* Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 336, 338, 345. ♂, ♀.

\**reflexa* Townes. B. C. to Calif., Idaho, Nev., Mont., Utah, S. Dak.

*Trychosis reflexa* Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 336, 337, 371. ♂, ♀.

\**semirubra arizonica* Townes. Ariz. (nr. Alpine).

*Trychosis semirubra arizonica* Townes, 1962. U. S. Natl. Mus. Bul. 216 (Pt. 3): 351, 354. ♂, ♀.

\**semirubra pulla* Townes. Wyo., Colo., Alta., Idaho, B. C., Wash., Calif. Host: egg sac drassid spider.

*Trychosis semirubra pulla* Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 351, 352. ♂, ♀.

*semirubra semirubra* Townes, changed status. Atlantic Ocean to Rocky Mts. in Transit. and Canad. Zones, Tex. Host: drassid spider egg cases. Reduced to subsp. rank (*teste* Townes and Townes, 1962, pp. 351, 353).

\**similis badiarmus* Townes. N. S. to Ont. south to Va., Ohio, Minn., also Tex.

*Trychosis similis badiarmus* Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 342, 343. ♂, ♀.

*similis similis* (Cresson), changed status. N. H. to S. C. west to Wis., also Kans., Tex. Reduced to subsp. rank (*teste* Townes and Townes, 1962, pp. 342, 344).

*subgracilis* (Cresson). Transit. zone.

\**sulcata* Townes. Conn., N. Y. to N. C., west to Ont., Mo., Kans.

*Trychosis sulcata* Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 335, 337, 349. ♂, ♀.

#### Genus IDIOLISPA Foerster, p. 266

\**Paracryptus* Szépligeti, 1916. Mus. Nat. Hungarici, Ann. 14: 251. (Syn. *teste* Townes, Townes and Gupta, 1961, p. 166.)

Type: *Paracryptus hungaricus* Szépligeti. By monotypy.

\**aestivalis* Townes. Maine and Que. to Ga., west to Wis., Iowa, Kans., also Tex.

*Idiolispa aestivalis* Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 323, 331. ♂, ♀.

*albisoleta* (Walsh). Transcont. in Canad. and Transit. Zones. Transf. from *Trychosis* Foerster, p. 266 (*teste* Townes and Townes, 1962, p. 323).



**analis analis** (Gravenhorst), changed status. Transcont. in Canad. Zone; Europe. Reduced to subsp. rank (*teste* Townes and Townes, 1962, pp. 326).

\* **analis ignea** Townes. So. Sask. to B. C., south to Calif., Ariz., N. Mex.

**Idiolispa analis ignea** Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 326, 329. ♂, ♀.

**analis limata** (Cresson), changed status. Transcont. in Transit. and U. Austr. Zones. Reduced to subsp. rank (*teste* Townes and Townes, 1962, pp. 326, 328).

**limata** (Cresson). A subsp. of  **analis** (Gravenhorst).

\*Genus **HEMISPFRAGIA** Seyrig

\* **Micromavia** Seyrig, 1952. Acad. Sci. Malgache, Mem. 19: 203, 204. (Syn. *teste* Townes and Townes, 1962, p. 378.)

Type:  **Micromavia carinata** Seyrig. Orig. desig.

**Hemisphragia** Seyrig, 1952. Acad. Sci. Malgache Mem. 19: 204, 207.

Type:  **Hemisphragia triangulifera** Seyrig. Orig. desig.

Place in Cryptini on page 266 after **Idiolispa** Foerster.

\* **debilis** Townes. Md., Va., Tenn., Ohio, Kans., La.

**Hemisphragia debilis** Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 378. ♂, ♀.

Genus **APSILOPS** Foerster, p. 267

\* **Heterotypus** Foerster, 1868. Naturh. Ver. Rheinlande 25: 183. Syn. (*teste* Townes, Townes, and Gupta, 1961, p. 142).

Type:  **Ichneumon cinctorius** Fabricius. Desig. by Townes, Townes, and Gupta, 1961.

**bicolor** (Cushman). Transcont. in Canad. Zone.

Genus **GAMBRUS** Foerster, pp. 267-268

**Aritranis** Foerster. Remove from syn. and place as valid genus on p. 268 with  **Hoplocryptus** Thomson as syn.

**affabilis** (Provancher). Transf. to  **Aritranis**, p. 269.

**apicatus** (Provancher). N. S., Ont., Vt., Ohio, Mich. Hosts: ?*Euura* gall; gall on *Salix*.

**bituminosus** (Cushman). Calif.

**canadensis burkei** (Viereck), changed status. Calif. Hosts: *Malacosoma californicum* (Pack.); *Hemerocampa vetusta* (Bdvl.); *H. oslari* (Barnes). Removed from syn. of  **exareolatus** (Viereck) (*teste* Townes and Townes, 1962, pp. 80, 84).

**canadensis canadensis** (Provancher), changed status. Atlantic Ocean to Rocky Mts. in Canad. and Transit. Zones; Alta., B. C., Wash., Oreg. Hosts: *Malacosoma* sp.; *M. disstria* Hbn., *M. americanum* (F.); *Carpocapsa pomonella* (L.); tenthredinid. Reduced to subsp. rank (*teste* Townes and Townes, 1962, p. 80).

? **Cryptus belangeri** Provancher. Transf. to  **Aritranis** Foerster as syn. of  **notata notata** (Provancher).

**canadensis exareolatus** (Viereck), changed status. Minn., Sask., Mont., Wyo., Colo., N. Mex., Alta., Idaho, also Wash. Hosts: *Malacosoma* sp., *M. fragile* (Stretch). Reduced to subsp. rank (*teste* Townes and Townes, 1962, p. 83).

**exareolatus** (Viereck). A subsp. of  **canadensis** (Provancher). In bibliog. ref. change p. 80 to 81.

**Cryptus (Gambus) burkei** Viereck. Remove from syn. Valid subsp. of  **canadensis** (Provancher).

**extrematis** (Cresson). Host: *Hyalophora euryalus kasloensis* (Ckll.).

**nuncius** (Say). N. W. T., Mich., Minn. Hosts: *Callosamia* sp., *C. angulifera* (Wlkr.), ?*Samia cynthia* (Dru.), ?*Antheraea polyphemus* (Cramer).

**tunicula rubra** (Fyles).

Taxonomy: Townes and Townes, 1962, pp. 71, 75. (Lectotype desig.)

**ultimus** (Cresson). *Exyra semicrocea* (Gn.), *Hypera brunneipennis* (Boh.), *Hyalscotes pithopoera* (Dyar), *Loxostege sticticalis* (L.), *Symyra henrici* (Grt.), *Trichoplusia ni* (Hbn.), *Udea rubigalis* (Gn.).

\***yukonensis** Townes. Alaska, Yukon, N.W.T.

*Gambrus yukonensis* Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 71, 79. ♂, ♀.

#### Genus ARITRANIS Foerster

(= *Hoplocryptus* Thomson of Catalog, pp. 268–269)

*Aritranis* Foerster. Removed from syn. of *Gambrus* Foerster. A valid genus (*teste* Townes and Townes, 1962, pp. 70, 98).

*Hoplocryptus* Thomson. Emend type citation to read (*Hoplocryptus binotatus* Thomson) = \**fugitiva* (Gravenhorst).

**affabilis** (Provancher). N. C., Ind., Mich., Ont., Minn., Kans. Hosts: *Phlyctaenia tertialis* (Guen.), *Oberea tripunctata* (Swed.), *Oberea* sp. Transf. from *Gambrus* Foerster (*teste* Townes and Townes, 1962, p. 100).

**albicollaris albicollaris** (Cresson), changed status. Que., Vt., N. Y., Va., N. C., Mich., Man., Ill., Kans., Tex., Mont. Host: *Phlyctaenia tertialis* (Guen.). Reduced to subsp. rank (*teste* Townes and Townes, 1962, pp. 100, 112).

\***albicollaris clypeata** Townes. Calif., Wash.

*Aritranis albicollaris clypeata* Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 112, 114. ♂, ♀.

\***barberi** Townes. Md. (Plummers Is.).

*Aritranis barberi* Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 100, 111. ♂.

\***byrsina** Townes. Que., Ont., south to Ga. and La., west to Wis., Iowa, Mo., Kans. Hosts: *Achatodes zeae* (Harr.), *Oberea* sp., *Papaipema* sp.

*Aritranis byrsina* Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 100, 102. ♂, ♀.

**gracilis** (Provancher). Alleghanian.

**imitator imitator** (Provancher), changed status. N. B., Que., Ont. south to R. I., N. Y., Ohio, west to Minn., also Alta. Reduced to subsp. rank (*teste* Townes and Townes, 1962, pp. 99, 121, 123).

\***imitator monticola** Townes. Alta., B. C., Idaho, Wash., Oreg.

*Aritranis imitator monticola* Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 121, 124. ♂, ♀.

\***imitator nigriventris** Townes. Que., N. Y., Sask., Wyo., Colo., N. W. T., Yukon, B. C., Oreg.

*Aritranis imitator nigriventris* Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 121. ♂, ♀.

\***imitator ruficauda** Townes. Calif. Host: *Hoplitis hypocrita* (Ckll.).

*Arcitransi imitator monticola* Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 121, 125. ♂, ♀.

\***linnae linnae** Townes. Que. to Alta., also N. Y., Mich., Minn.

*Aritranis linnae linnae* Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 100, 105. ♂, ♀.

\***linnae pacifica** Townes. Calif.

*Aritranis linnae pacifica* Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 105, 106. ♂, ♀.

**notata newcomeri** (Cushman), changed status. Mont. to B. C. south to Oreg., also N. J. Host: *Ametastegia glabrata* (Fall.), *Allantus cinctus* (L.). Removed from syn. of **notata** (Provancher) (*teste* Townes and Townes, 1962, pp. 117, 119).

**notata notata** (Provancher), changed status. Atlantic to Rocky Mts. in Canad., Transit. zones. Hosts: "*Odynerus*" nest in *Rhus* stem, *Ancistrocerus birenimaculatus* (Sauss.).

**Cryptus belangeri** Provancher. Transf. from syn. of **Gambrus canadensis canadensis** (Provancher), p. 268 (*teste* Townes and Townes, 1962, pp. 80, 116).

**Caenocryptus newcomeri** Cushman. Remove from syn.; valid subsp. of **notata** (Provancher).

\***notata sierrae** Townes. Calif. Hosts: *Ancistrocerus spilogaster* Cam.; *Lep-tochilus tetrymnia* Park.; *Megachile gentilis* Cress.

**Aritranis notata sierrae** Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 116, 120. ♂, ♀.

\***nubecula** Townes. R. I., Fla., Mich., Tex.

**Aritranis nubecula** Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 100, 109. ♂, ♀.

Genus **AGROTHEREUTES** Foerster, pp. 269-270, Sup. 1, p. 46

\***Dayro** Cameron, 1902. Ann. and Mag. Nat. Hist. (Ser. 7) 9: 209. Syn. (*teste* Townes and Townes, 1962, pp. 12, 42. An earlier reference to this synonymy not found).

Type: **Dayro pilosus** Cameron. By monotypy.

**abbreviator iridescens** (Cresson), changed status. *A. abbreviator abbreviator* is European. Minn., Wis., Ont. Host: *Diprion frutetorum* (F.). Reduced to subsp. rank (*teste* Townes and Townes, 1962, pp. 51, 52, 57).

**abbreviator rufopectus** Cushman, changed status. B. C., Alta. to Calif. east to Wyo., Colo., N. Mex. Hosts: *Neodiprion tsugae* Midd., *Pristiphora erichsonii* (Htg.), *Laspeyresia nigricana* (Steph.). Reduced to subsp. rank (*teste* Townes and Townes, 1962, pp. 51, 55).

**abbreviator similis** (Provancher), changed status. N. S., Ont., Mich., Wis., Minn., Man., Sask., Alta., N. W. T., Yukon, Alaska. Host: *Neodiprion lecontei* (Fitch), *N. abietis* (Harr.), *N. sertifer* (Geoff.), *Pristiphora erichsonii* (Htg.). Reduced to subsp. rank (*teste* Townes and Townes, 1962, pp. 51, 52, 53).

Biology: Finlayson, 1960, Canad. Ent. 92 (12): 932-933 (larval).

\***alutarius** Townes. Alaska, Yukon, N. W. T.

**Agrothereutes alutarius** Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 44, 45, 47. ♂, ♀.

**cimbicivorus** (Cushman). Canad. Zone.

\***grandis** Townes. Conn. south to S. C.

**Agrothereutes grandis** Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 44, 45, 46. ♂, ♀.

**iridescens** (Cresson). A subsp. of **abbreviator** (Fabricius).

**lophyri lophyri** (Norton), changed status. Reduced to subsp. rank (*teste* Townes and Townes, 1962, pp. 60, 62).

\***lophyri obscurus** Townes. Newfoundland, N. B. Host: *Neodiprion abietis* (Harr.).

**Agrothereutes lophyri obscurus** Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 60, 61. ♂, ♀.

\***lophyri ontariensis** Townes. N. B., Maine, Que., Ont., N. H., N. J., Mich., Wis., Minn., Man., B. C. Hosts: *Neodiprion abietis* (Harr.); *N. lecontei* (Fitch); *N. nanulus nanulus* Schedl; *N. nigroscutum* Midd.; *N. pratti banksianae* Rohw.; *N. sp.*, *Diprion similis* (Htg.); "Spruce sawfly."

- Agrothereutes lophyri ontariensis* Townes, 1962. *In* Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 60. ♂, ♀.
- \**mandator americanus* Townes. Transcont. in Transit. and Canad. Zones. Hosts: *Cimbex americana* Leach, *Trichiosoma triangulum* Kby., *T. sp.*
- Agrothereutes mandator americanus* Townes, 1962. *In* Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 67, 68. ♂, ♀.
- \**montanus* Townes. Colo. (Rocky Mt. Natl. Pk.).
- Agrothereutes montanus* Townes, 1962. *In* Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 45, 48. ♀.
- neodiprionis* (Cushman). Canad. Zone.
- \**pallipennis* Townes. Calif. (East Sonora Pass).
- Agrothereutes pallipennis* Townes, 1962. *In* Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 43, 45, 49. ♂, ♀.
- rufopectus* Cushman. A subsp. of *abbreviator* (Fabricius).
- similaris* (Provancher). A subsp. of *abbreviator* (Fabricius).

Genus JOPPIDIUM Cresson, p. 270

- \**Isocryptus* Brèthes, 1927. Ent. Mitt. 16: 308. (Syn. *teste* Townes and Townes, 1962, p. 306.)  
Type: (*Isocryptus azureus* Brèthes) = *moerens* (Perty). By monotypy.
- \**arizonicum* Townes. Ariz.
- Joppidium arizonicum* Townes, 1962. *In* Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 307, 312. ♂.
- \**brochum brochum* Townes. Okla., Tex.; Mexico.
- Joppidium brochum brochum* Townes, 1962. *In* Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 307, 308, 309. ♂, ♀.
- \**brochum fattigi* Townes. Ky., N. C., Ga.
- Joppidium brochum fattigi* Townes, 1962. *In* Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 308, 309. ♂, ♀.
- \**densum* Townes. Ariz.; Mexico.
- Joppidium densum* Townes, 1962. *In* Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 307, 312. ♂, ♀.
- \**discolor* Townes. Ariz.
- Joppidium discolor* Townes, 1962. *In* Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 308, 314. ♂.
- \**dubiosum* Cresson. Va., S. C., Ga., Ala.; Mexico.
- Joppidium dubiosum* Cresson, 1873. [Phila.] Acad. Nat. Sci. Proc. 1873: 138. ♂, ♀.
- \**Opisosextus* (1) *ruficeps* Szépligeti, 1916. Mus. Natl. Hungarici, Ann. 14: 240. ♂. Preocc. (Syn. *teste* Townes and Townes, 1962, p. 317.)
- \**fuscipenne* (Brullé). Ariz. (Huachuca Mts.); Mexico.
- Cryptus fuscipennis* Brullé; 1846. *In* Lepeletier, Hist. Nat. Ins. Hym. v. 4, p. 189. ♀.
- \**Joppidium donabilis* Cresson, 1873. [Phila.] Acad. Nat. Sci. Proc. 1873: 139. ♂, ♀. (Syn. *teste* Townes and Townes, 1962, p. 310.)
- \**Joppidium yucatanense* Cameron, 1885. Biol. Cent.-Amer. Ins., Hym., v. 1, p. 211. ♀. (Syn. *teste* Townes and Townes, 1962, p. 310.)

Genus ISCHNUS Gravenhorst, pp. 270-271

- \**Aglaocryptus* Cameron, 1903. Manchester [England] Lit. and Philos. Soc., Mem. and Proc. 47 (Pt. 14): 31. (Syn. *teste* Townes, Townes and Gupta, 1961, pp. 133, 135.)  
\*Type: *Aglaocryptus curvimaculatus* Cameron. Desig. by Viereck, 1914.

- cinctipes** (Walsh). Que., Ont., to Fla., west to Minn. and Tex. Hosts: *Ancylys comptana* (Froel.), *A. divisana* Wlkr., *Polychrosis viteana* (Clem.). Transf. from Alaphabetic List of Unplaced Species, p. 408 (*teste* Townes and Townes, 1962, pp. 133, 137).
- Ischnus fraterculus fraterculus*** (Provancher) Sup. 1, p. 46 (as ***3-annulatus fraterculus*** (Provancher) in Catalog, p. 270. (*Syn. teste* Townes and Townes, 1962, p. 137).
- \*inquisitorius assimilis** (Uchida), changed status. Alaska; Siberia, Japan. Reduced to subsp. rank (*teste* Townes and Townes, 1962, pp. 144, 145, 146).
- Habrocryptus assimilis*** Uchida, 1930. Hokkaido Imp. Univ., Fac. of Agr. Jour. 25: 313. ♀.
- inquisitorius atriceps** (Cresson). Colo., S. Dak. Hosts: *Choristoneura fumiferana* (Clem.); orange tortrix on *Rhododendron* sp.
- inquisitorius atricollaris** (Walsh). B. C. Hosts: *Choristoneura rosaceana* (Harr.), *Malacosoma disstria* Hbn.
- Cryptus amblytelarius*** Provancher. Transf. to syn. of ***rhomboidalis*** (Walsh).
- Spilocryptus neomexicana*** Viereck. In bibliog. ref. change p. 80 to p. 81.
- \*inquisitorius pectoralis** Townes. Alaska, Yukon, N. W. T., B. C. to Colo., N. Mex. east to Ont., Mich. Host: *Choristoneura conflictana* (Wlkr.).
- Ischnus inquisitorius pectoralis*** Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 144, 146. ♂, ♀.
- \*laevifrons** Townes. Ariz. (Transit., Canad. Zones).
- Ischnus laevifrons*** Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 133, 156. ♂, ♀.
- latus latus** (Provancher), changed status. N. S., Maine, N. H., west to Alta. in Canad. Zone. Transf. from syn. of ***Cubocephalus annulatus*** Cresson, p. 253 and reduced to subsp. rank (*teste* Townes and Townes, 1962, p. 135).
- Ischnus triannulatus triannulatus*** (Provancher). Preocc. (*Syn. teste* Townes and Townes, 1962, p. 135.)
- Cryptus triannulatus*** Provancher (*syn. teste* Townes and Townes, 1962, p. 135).
- Ischnus fraterculus tricircularis*** Walkley (*syn. teste* Townes and Townes, 1962, p. 135).
- latus pinguis** (Provancher), changed status. Que., Ont. to N. C. west to Wis. and Kans. in Alleghanian fauna. Reduced to subsp. rank (*teste* Townes and Townes, 1962, pp. 135, 136).
- \*laurae** Townes. S. C., Fla.
- Ischnus laurae*** Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 133, 140. ♂, ♀.
- \*lautus** Townes. B. C., Calif. Host: *Grapholitha molesta* (Busck).
- Ischnus lautus*** Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 133, 163. ♂, ♀.
- \*minor** Townes. Transcont. in Transit. and Canad. Zones. Hosts: *Acleris variana* (Fern.), *Choristoneura fumiferana* (Clem.), *Polychrosis viteana* (Clem.).
- Ischnus minor*** Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 133, 159. ♂, ♀.
- \*politus** Townes. Colo.
- Ischnus politus*** Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 133, 162. ♀.
- rhomboidalis** (Walsh). Transf. from Alaphabetic List of Unplaced Species, p. 408 (*teste* Townes and Townes, 1962, p. 157).
- Cryptus amblytelarius*** Provancher. Transf. from syn. of ***inquisitorius atricollaris*** (Walsh) (*teste* Townes and Townes, 1962, p. 157).

\**sparsus* Townes. Que. to N. C. west to Minn.

*Ischnus sparsus* Townes, 1962. *In* Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 132, 141. ♂, ♀.

\**velutinus* Townes. Ariz. (Transit. Zone).

*Ischnus velutinus* Townes, 1962. *In* Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 133, 155. ♂, ♀.

**Genus PSEUDISCHNUS Walkley, Sup. 1, p. 47**

Taxonomy: Townes and Townes, 1962, pp. 165-167.

\**oregonensis coxalis* (Townes) n. comb. S. Dak. (Deadwood).

*Habrocryptoides oregonensis coxalis* Townes, 1962. *In* Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 167. ♀.

*oregonensis oregonensis* (Cushman), changed status. B. C., Wash., Calif., Wyo. Reduced to subsp. rank (*teste* Townes and Townes, 1962, p. 167).

**\*Genus HABROCRYPTOIDES Uchida**

*Habrocryptoides* Uchida, 1952. *Insecta Matsumurana* 18: 19.

Type: *Habrocryptus shikokuensis* Uchida. Orig. desig.

Place after *Pseudischnus* [p. 271], Sup. 1, p. 47.

\**erasus* Townes. Alta. (Lethbridge).

*Habrocryptoides erasus* Townes, 1962. *In* Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 166, 175. ♀.

\**inflexus* Townes. Calif. (Alpine Co.).

*Habrocryptoides inflexus* Townes, 1962. *In* Townes and Townes, U. S. Natl. Mus. Bul. 216 (3): 166, 177. ♀.

\**lumbarius* Townes. Calif. (Lancaster).

*Habrocryptoides lumbarius* Townes, 1962. *In* Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 166, 174. ♀.

\**nitens* Townes. Calif. (Kern Co.).

*Habrocryptoides nitens* Townes, 1962. *In* Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 166, 176. ♀.

\**pictus* Townes. Ariz.

*Habrocryptoides pictus* Townes, 1962. *In* Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 166, 173. ♂.

*rufifrons* (Walsh). N. Y. to Fla., west to Mich. and Tex. Transf. from Alphabetic List of Unplaced Species, p. 408 (*teste* Townes and Townes, 1962, pp. 166, 169).

\**virgeus ardalus* Townes. Ariz., Colo.

*Habrocryptoides virgeus ardalus* Townes, 1962. *In* Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 171, 172. ♂, ♀.

\**virgeus virgeus* Townes. Mass. to S. C., Mich., Wis. Hosts: *Harrisina americana* (G.-M.); *?Carpocapsa pomonella* (L.).

*Habrocryptoides virgeus virgeus* Townes, 1962. *In* Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 166, 170, 171. ♂, ♀.

**Genus CHROMOCRYPTUS Ashmead, p. 271**

*planosae planosae* (Fitch), changed status. Reduced to subsp. rank (*teste* Townes and Townes, 1962, p. 257).

\**planosae vandykei* Townes. Calif. ("Havilah", Fresno Co.).

*Chromocryptus planosae vandykei* Townes, 1962. *In* Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 257, 258. ♀.

**Genus LISTROGNATHUS Tschek, p. 271**

**\*LISTROGNATHUS subgenus FENESTULA Townes**

*Listrognathus* subg. *Fenestula* Townes, 1962. *In* Townes and Townes,

U. S. Natl. Mus. Bul. 216 (Pt. 3): 408.

Type: *Mesostenus paludatus* Cresson. Orig. desig. and by monotypy.

\**paludatus californicus* Townes. Calif.

*Listrognathus (Fenestula) paludata californica* Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 409, 410. ♂, ♀.

\**paludatus ocularis* Townes. Ariz. (Chiricahua Mts.).

*Listrognathus (Fenestula) paludata ocularis* Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 409, 411. ♀.

*paludatus paludatus* (Cresson), changed status. Transcont. in Transit. and Canad. Zones, Alaska, Tex. Hosts: *Cerura cinerea* Wlkr., *C. sp.* Reduced to subsp. rank (*teste* Townes and Townes, 1962, p. 409).

**LISTROGNATHUS subgenus LISTROGNATHUS Tschek**

\**acheloma* Townes. Md., Fla.

*Listrognathus (Listrognathus) acheloma* Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 413, 425. ♀.

*albomaculatus albomaculatus* (Cresson), changed status. Ont., Ga., Mich., Kans., La., Tex. Host: *Gretchena bolliana* (Sling.). Reduced to subsp. rank (*teste* Townes and Townes, 1962, pp. 420, 421).

*albomaculatus* var. *multimaculatus* Cushman. A valid sp.

*albomaculatus* var. *nubilipennis* (Cresson). A valid species.

*albomaculatus sagax* (Provancher), changed status.

*Listrognathus albomaculatus* var. *sagax* (Provancher). Changed to subsp. rank (*teste* Townes and Townes, 1962, p. 420).

\**bicolor* Townes. Ariz. (Oak Creek Canyon).

*Listrognathus (Listrognathus) bicolor* Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 414. ♀.

\**femoratus* Townes. P. E. I., Que., Ont., Mich., Va., W. Va

*Listrognathus (Listrognathus) femorata* Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 414, 415. ♂, ♀.

\**glomeratus* Townes. Pa. to Fla., W. Va., Ala., Tex.

*Listrognathus (Listrognathus) glomerata* Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 414, 424. ♂, ♀.

*multimaculatus* Cushman, changed status.

*Listrognathus albomaculatus* var. *multimaculatus* Cushman. Elevated to sp. rank (*teste* Townes and Townes, 1962, pp. 414, 422).

\**nigrescens* Townes. Alta., Utah, Wyo., N. Mex.

*Listrognathus (Listrognathus) nigrescens* Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 414, 416. ♂, ♀.

*nubilipennis* (Cresson), changed status.

*Listrognathus albomaculatus* var. *nubilipennis* (Cresson). Elevated to sp. rank (*teste* Townes and Townes, 1962, pp. 414, 416).

*paludatus* (Cresson). Transf. to subg. *Fenestula* Townes.

*rufitibialis* Cushman. Ind., Okla.

\**rufus* Townes. N. Y., Kans.

*Listrognathus (Listrognathus) rufa* Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 413, 419. ♂.

*victoriensis* (Harrington).

Taxonomy: Townes and Townes, 1962, pp. 417-419.

**Genus DIAPETIMORPHA Viereck, pp. 271-272**

*acadia* Cushman. D. C., Va., N. C., Tenn., Ala.

*alabama* Cushman.

Biology and Taxonomy: Townes and Townes, 1962, pp. 381, 383-384.

**\*brunnea** Townes. Ga., Fla.

*Diapetimorpha brunnea* Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 381, 382. ♂, ♀.

*confederata* Cushman. A subsp. of *macula* (Cameron).

*introita* (Cresson). N. C., S. C., Fla., Miss.

*macula confederata* Cushman, changed status. Va. Reduced to subsp. rank (*teste* Townes and Townes, 1962, p. 385). *D. macula macula* (Cameron) is Mexican.

**\*macula ustulata** Townes. Fla.

*Diapetimorpha macula ustulata* Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 385, 386. ♀.

**\*picta** Townes. Ga., Fla.

*Diapetimorpha picta* Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 381, 387. ♂, ♀.

*rufigaster* Cushman. N. C., Tenn., Wis.

*rugosa* Townes. N. J. to S. C. west to Wis., Iowa, Kans., Ark., La. and Tex.

*Diapetimorpha rugosa* Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 381, 382, 392. ♂, ♀.

**Genus MALLOCHIA** Viereck, p. 272

*agenioides* Viereck. Mich.

*\*frontalis* Townes. N. J., Md., N. C., Kans., Tex.

*Mallochia frontalis* Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (3): 93, 94, 97. ♂, ♀.

*\*laevis* Townes. Ga., Fla.

*Mallochia laevis* Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 94, 97. ♂, ♀.

*strigosa* (Cresson). ?Ariz.

Taxonomy: Townes and Townes, 1962, pp. 94, 95.

**\*Genus PACHYSOMOIDES** Strand

(= *Polistiphaga* Cushman of Catalog, p. 272)

*\*Pachysoma* Szépligeti, 1916. Mus. Natl. Hungarici Ann. 14: 263, 290. Preocc.

Type: (*Pachysoma albopictum* Szépligeti) = *stupidus* (Cresson). By monotypy.

*Pachysomoides* Strand, 1917. Ent. Ztschr. 10 (24): 137. N. name.

*Polistiphaga* Cushman. Syn. (*teste* Townes and Townes, 1962, p. 398). Change type citation to read: (*Mesostenus arvalis* Cresson) = *fulvus* (Cresson).

*fulvus* (Cresson). Cuba.

*stupidus* (Cresson). Tenn.

*\*Pachysoma albopictum* Szépligeti, 1916. Mus. Natl. Hungarici Ann. 14: 290. ♀. Syn. (*teste* Townes and Townes, 1962, p. 399).

**Genus Nasutocryptus** Pratt, p. 272

Syn. of *Lyneon* Foerster.

*nasutus* Pratt. Transf. to *Lyneon* Foerster, *infra*.

**Genus LYMEON** Foerster, pp. 272-273

*\*Christolimorpha* Viereck, 1913. U. S. Natl. Mus. Proc. 44: 564. (Syn. *teste* Townes and Townes, 1962, p. 393.)

Type: *Christolimorpha plesius* Viereck. Orig. design.

*\*Zamastrus* Viereck, 1913. U. S. Natl. Mus. Proc. 46: 385. (Syn. *teste* Townes and Townes, 1962, p. 393.)

Type: *Zamastrus photopsis* Viereck. Orig. design.

*\*Neogoryphus* Roman, 1936. Ent. Tidskr. 57: 3. (Syn. *teste* Townes and



Townes, 1962, p. 393.)

\*Type: *Ichneumon ariolator* Linnaeus.

*Nasutocryptus* Pratt (syn. *teste* Townes and Townes, *Op. cit. supra*).

*cinctiventris* (Cushman). D. C.

\**leiponeuron* Townes, Fla.

*Lyneon leiponeuron* Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3) : 393, 397. ♂, ♀.

*nasutum* (Pratt). Transf. from *Nasutocryptus* Pratt (*teste* Townes and Townes, 1962, pp. 393, 398).

*orbum* (Say). Host: *Phereoeca walsinghami* (Busck).

Genus *ACERASTES* Cushman, p. 273

*pertinax* Cresson. Cuba, Puerto Rico.

Biology: Townes and Townes, 1962, pp. 404-405.

Genus *POLYCYRTIDEA* Viereck, p. 273

*flavopicta* (Ashmead). Remove from Catalog, p. 273, and Sup. 1, p. 47, not in Nearctic region. Remove *limitis* Cushman from syn. (*teste* Townes and Townes, 1962, pp. 406-407).

*limitis* Cushman. Tex.; Mexico, Costa Rica. Removed from syn. of *flavopicta* (Ashmead). A valid species (*teste* Townes and Townes, p. 406).

\*Subtribe NEMATOPODIINA

Taxonomy: Townes and Townes, 1962. U. S. Natl. Mus. Bul. 216 (Pt. 3) : 15, 20, 461.

Insert as third Subtribe of *Cryptini*.

Genus *ACRORICNUS* Ratzeburg, pp. 275-276, Sup. 1, pp. 47-48

*Xenodocon* Foerster. Misspelled *Xenocodon* (!) in Catalog, pp. 275, 1283.

Type species, *Xenodocon ruficornis* Foerster, is considered syn. of *stylator* (Thunberg) by Perkins, 1962, p. 462.

*stylator edwardsii* (Cresson). Host: *Sceliphron caementarium* (Dru.).

*stylator excelsus* (Cresson). Wyo., S. Dak.

*stylator junceus* (Cresson). Host: *Eumenes* nest.

Genus *MESSATOPORUS* Cushman, p. 276, Sup. 1, p. 48

*compressicornis* Cushman. Ohio, Tenn. Hosts: *Ancistrocerus tuberculocephalus sutterianus* (Sauss.); *Trypoxylon collinum rubrocinctum* Pack.

*discoidalis* (Cresson). Miss.

*Mesostenus ferrumequinum* Walsh and Riley. Preocc.

*Mesostenus jocosus* Provancher, 1874. Nat. Canad. 6 (10) : 300. ♀.

Taxonomy: Townes and Townes, 1962, pp. 462-463, 465-467.

*ferrumequinum* (Walsh and Riley). Preocc.

*Mesostenus discoidalis* Cresson. Removed from syn. as valid name for above.

*rufiventris* Cushman. Transcont. Hosts: *Auplopus* nest; ?*Phanagenia bombycina* nest; *Trypoxylon* (*Trypoxylon*) sp.

\*Subtribe ECHTHRINA

Taxonomy: Townes and Townes, 1962, U. S. Natl. Mus. Bul. 216 (Pt. 3) : 15, 20, 476.

Place as fourth subtribe of *Cryptini*.

Genus *ECHTHRUS* Gravenhorst, p. 273

\**Karaechthrus* Uchida, 1929. Ins. Matsumurana 3 (4) : 176. (Syn. *teste* Townes and Townes, 1962, p. 486.)

Type: *Karaechthrus tuberculatus* Uchida. Orig. desig. and by monotypy.

\**Bioleter* Meyer, 1930. Acad. Sci. USSR. Mus. Zool. Ann. 31: 169. (Syn. *teste* Townes and Townes, 1962, p. 486.)

Type: (*Bioleter eos* Meyer) = *tuberculatus* (Uchida). Orig. desig.

*abdominalis abdominalis* Cresson, changed status. Atlantic Ocean to Minn. in Canada. Zone. Reduced to subsp. rank (*teste* Townes and Townes, 1962, pp. 488, 489, 490).

\**abdominalis dimidiatus* Townes. Calif.

*Echthrus abdominalis dimidatus* Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 488, 489, 491. ♂, ♀.

\**abdominalis infuscus* Townes. Wyo., Utah, Ariz., N. Mex.

*Echthrus abdominalis infuscus* Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 488, 492. ♂, ♀.

*abdominalis vancouverensis* (Bradley), changed status. Alta. and B. C. to Wyo. and Calif. Reduced to subsp. rank (*teste* Townes and Townes, 1962, pp. 488, 489).

*adillae adillae* Davis, changed status. B. C., Wash., Oreg. Reduced to subsp. rank (*teste* Townes and Townes, 1962, pp. 497, 498).

\**adillae brunneus* Townes. N. Y., Va.

*Echthrus adillae brunneus* Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 497, 501. ♀.

\**adillae nigriventris* Townes. Labrador, Man., Mont., Colo., Alta., B. C., Alaska. Host: *Paranthrene robiniae* f. *perlucida* (Busck).

*Echthrus adillae nigriventris* Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 497. ♂, ♀.

\**adillae rubidus* Townes. Oreg., Calif., Nev.

*Echthrus adillae rubidus* Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 496, 499. ♂, ♀.

\**adillae semiruber* Townes. Wash., Oreg.

*Echthrus adillae semiruber* Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 2): 497, 498. ♂, ♀.

\**adillae tibialis* Townes. Maine, Que., Ont.

*Echthrus adillae tibialis* Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 497, 500. ♂, ♀.

\**niger emaculatus* Townes. Maine, Que., Ont., Mich., Wis.

*Echthrus niger emaculatus* Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 493, 494. ♂, ♀.

*niger niger* Cresson, changed status. Que., Ont., south to Va., Mich. Host: *Saperda candida* F. Reduced to subsp. rank (*teste* Townes and Townes, 1962, pp. 494, 495).

*niger rufopedibus* Harrington, changed status. Que. to B. C., Minn. Reduced to subsp. rank (*teste* Townes and Townes, 1962, pp. 493, 494).

*rufopedibus* Harrington. A subsp. of *niger* Cresson.

*vancouverensis* (Bradley). A subsp. of *abdominalis* Cresson.

#### Genus XYLOPHRURUS Foerster, pp. 273-274

*Xylophrurus* Foerster. Change type citation to (*Echthrus lancifer* (Gravenhorst)) = *dispar* (Thunberg). Included by Schmiedeknecht, 1888.

*Nyxeophilus* Foerster. Change type citation to: *Cryptus bimaculatus* Gravenhorst [as Thomson]. (Perkins, 1962, p. 439, considers this a valid genus.)

*Macrocryptus* Thomson. Change type citation to (*Echthrus lancifer* Gravenhorst) = *dispar* (Thunberg). By monotypy.

\**Nyxeophilus* Thomson, 1885. Soc. Ent. France Ann. V (6): 18.

Type: *Cryptus bimaculatus* Gravenhorst. Orig. desig.

*agrili* (Viereck). Mich.

*atoruber* Townes. Syn. of *sitkensis* (Ashmead).

*bicolor bicolor* (Cushman), changed status. B. C., Idaho. Host: *Saperda moesta* LeC. Reduced to subsp. rank (*teste* Townes and Townes, 1962, p. 482).

\**bicolor maurus* Townes. Que. to Man. in Canad. Zone.

*Xylophrurus bicolor maurus* Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 482, 483. ♂, ♀.

*fasciatus fasciatus* (Ashmead). Que., N. Y., Mich.

\**fasciatus hesperus* Townes. Colo., Ariz., Calif.

*Xylophrurus fasciatus hesperus* Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 480, 481. ♂, ♀.

*luctuosus* Provancher. A subsp. of *nubilipennis* Cresson.

\**nubilipennis abdominalis* Townes. Sask., Utah, B. C.

*Xylophrurus nubilipennis abdominalis* Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 483, 484. ♂, ♀.

*nubilipennis luctuosus* (Provancher), changed status. Que. and Ont. south to Fla. Host: *Agrius champlaini* Frost; borer in *Populus*; *Oberea praelonga* Casey, *Saperda candida* F. Reduced to subsp. rank (*teste* Townes and Townes, 1962, p. 483).

*nubilipennis nubilipennis* (Cresson), changed status. Colo. Reduced to subsp. rank (*teste* Townes and Townes, 1962, pp. 483, 484).

*sitkensis* (Ashmead). Alaska, B. C., Wash., Oreg., Calif.

*Xylophrurus atoruber* Townes (syn. *teste* Townes and Townes, 1962, p. 479).

#### Genus AGONOCRYPTUS Cushman, p. 274

*discoidaloides* (Viereck). Host: *Psyrassa unicolor* (Rand.).

#### Genus CRYPTOHELCOSTIZUS Cushman, pp. 274-275

*alamedensis* (Ashmead). B. C., Utah, Tex. Host: Borer in *Agave* stem.

\**caudatus* Townes. Calif. (Lake Tahoe).

*Cryptohelcostizus caudatus* Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 505, 511. ♀.

*dichrous* Viereck. Mo.

\**fumipennis* Townes. Ariz. (Sabino Canyon).

*Cryptohelcostizus fumipennis* Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 505, 507. ♀.

\**genalis* Townes. Calif. (Capella, Mendocino Co.).

*Cryptohelcostizus genalis* Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 504, 507. ♀.

\**leiomerus* Townes. Calif. (Tanbark Flat, Los Angeles Co.).

*Cryptohelcostizus leiomerus* Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 505, 506. ♀.

\**maculosus* Townes. Calif.

*Cryptohelcostizus maculosus* Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 505, 512. ♀.

\**nigricans* Townes. Ariz. (Sierra Ancha).

*Cryptohelcostizus nigricans* Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 505, 508. ♂, ♀.

Genus **HELHOSTIZUS** Foerster, p. 275, Sup. 1, p. 47*Brachycentrus* Taschenberg.*Helcostizus* Foerster.*Cyrtocryptus* Marshall.*Mesocryptus* Thomson.*Heterocryptus* Woldstedt.Change type citation of each of above to (*Cryptus brachycentrus* Gravenhorst) = **albator** (Thunberg).*Asternaulax* Viereck. Change type citation to (*Asternaulax fiskei* Viereck) = **albator canadensis** (Provancher).**albator canadensis** (Provancher), changed status. Tenn., Mich. Reduced to subsp. rank (*teste* Townes and Townes, 1962, pp. 518, 521). *H. albator albator* (Thunberg) is European.**albator rufiscutum** Cushman, changed status. B. C., Oreg., Ariz. Host: borings of *Plectura spinicauda* Mannh. Reduced to subsp. rank (*teste* Townes and Townes, 1962, p. 518, 520).**albator yukonensis** (Ashmead), changed status. Alaska, N. W. T. south to Oreg. and Idaho. Reduced to subsp. rank (*teste* Townes and Townes, 1962, p. 519).**annulicornis** (Walsh). Md., Mich., Okla. Host: ? *Elaphidionoides parallelus* (Newn.).*Helcostizus bicarinatus* Cushman (syn. *teste* Townes and Townes, 1962, p. 515).**bicarinatus** Cushman. Syn. of **annulicornis** (Walsh).**canadensis** (Provancher). A subsp. of **albator** (Thunberg).**rufiscutum** Cushman. A subsp. of **albator** (Thunberg).**\*subrectus** Townes. Ariz. (nr. Alpine).*Helcostizus subrectus* Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 514, 517. ♀.**\*tibialis** Townes. Ont., N. Y., Mich., Wis.*Helcostizus tibialis* Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 514, 516. ♂, ♀.**\*oxyura** Townes. Ont., Mich.*Helcostizus oxyura* Townes, 1962. In Townes and Townes, U. S. Natl. Mus. Bul. 216 (Pt. 3): 514, 517. ♀.**yukonensis** (Ashmead). A subsp. of **albator** (Thunberg).

## Subfamily ICHNEUMONINAE

## Tribe PHAEOGENINI

Genus **PHAEOGENES** Wesmael, pp. 276-278*Phaeogenes* Wesmael. After bibliog. ref. add: Proposed as subg. of "*Ichneumon* Grav."**\*Tycherus** Foerster, 1868. Naturh. Ver. Rheinlande Verh. 25: 192 (syn. *teste* Perkins, 1962, p. 461).Type: *Phaeogenes (Proscus) elongatus* Thomson. Desig. by Perkins, 1962.**\*Proscus** Holmgren, 1889. Ichn. Suecica 3: 420 (syn. *teste* Perkins, 1962, p. 461).Type: *Phaeogenes cephalotes* Wesmael. Desig. by Ashmead, 1900.**\*laricellae** Mason. N. B., Ont. Host: *Argyresthia laricella* Kft.*Phaeogenes laricellae* Mason, 1961. Canad. Ent. 93 (1): 3. ♂, ♀.**parvus** (Provancher). Transf. to **\*Aethecerus** Wesmael.**pyriformis** (Provancher). Transf. to **\*Jethsura** Cameron.

**testaceicornis** (Cameron). Transf. from **Dicaelotus** Wesmael, p. 280 (*teste* Townes, 1961. Ent. Soc. Wash. Proc. 63 (2) : 104).

**vincibilis** (Cresson). Transf. to **\*Takanona** Uchida.

**walshiae walshiae** Ashmead. Ohio. Host: *Hendecaneura shawiana* (Kft.).

**\*Genus TAKANONA** Uchida

**Takanona** Uchida, 1926. Hokkaido Imp. Univ. Coll. Agr. Jour. 18: 158, 163.

Type: **Takanona ishiyamana** Uchida. Orig. desig.

Syn. of **Oronotus** Wesmael, 1844, *teste* Townes, Momoi, and Townes, 1965, p. 420.

Place after **Phaeogenes** Wesmael on p. 278.

**vincibilis** (Cresson). Transf. from **Phaeogenes** Wesmael (*teste* Townes, 1957. Ent. Soc. Wash. Proc. 59 (3) : 119).

**\*Genus JETHSURA** Cameron

**Jethsura** Cameron, 1902. Amer. Ent. Soc. Trans. 28: 373.

Type: (**Jethsura ferruginea** Cameron) = **pyriformis** (Provancher). By monotypy.

Place on p. 278, after **Phaeogenes** Wesmael and **\*Takanona** Uchida.

**pyriformis** (Provancher). Transf. from **Phaeogenes** Wesmael, p. 277 (*teste* Townes, 1961. Ent. Soc. Wash. Proc. 63 (2) : 109).

**\*Jethsura ferruginea** Cameron, 1902. Amer. Ent. Soc. Trans. 28: 374. ♀. (Syn. *teste* Townes, *loc. cit. supra*.)

**\*Genus AETHECERUS** Wesmael

**Aethecerus** Wesmael, 1844. Acad. Sci. Bruxelles Nouv. Mém. 18: 166, 203. Proposed as subg. of "*Ichneumon* Grav."

Type: **Aethecerus dispar** Wesmael. Desig. by Ashmead, 1900.

Place before **Diadromus** Wesmael on p. 278.

**parvus** (Provancher). Transf. from **Phaeogenes** Wesmael (*teste* Mason, 1960. Canad. Ent. 92 (2) : 145).

**\*pinifolii** Mason. Calif., Alta. Hosts: *Recurvaria milleri* Busck, *R. starki* Freem.

**Aethecerus pinifolii** Mason, 1960. Canad. Ent. 92 (2) : 145. ♀, ♂.

**\*Genus THYRAEELLA** Holmgren

**Thyraeella** Holmgren, 1889. Ichn. Suecica, v. III, p. 402.

Type: **Ichneumon (Ischnus) collaris** Gravenhorst. By monotypy.

Place before **Diadromus** Wesmael, on p. 278.

**erythrostomus** (Cameron). Transf. from **Diadromus** Wesmael, p. 278 (*teste* Townes, 1961. Ent. Soc. Wash. Proc. 63 (2) : 113).

**Genus DIADROMUS** Wesmael, p. 278

**erythrostomus** (Cameron). Transf. to **\*Thyraeella** Holmgren.

**Genus DICAELOTUS** Wesmael, pp. 279-280

**Leptodemas** Foerster. Considered syn. of **Deloglyptus** Foerster by Perkins (first reviser), 1962, p. 435 (also *in litt.*).

**\*Deloglyptus** Foerster, 1868. Naturh. Ver. Rheinlande Verh. 25: 193. (A valid genus according to Perkins, 1962, p. 416.)

Type: **Deloglyptus punctiventris** Thomson. Incl. by Thomson, 1891.

**Deloglyptus** and **Leptodemas** are left in synonymy here because a revision of the species is not within the scope of this catalog.

**gelechia** (Ashmead). Ohio.

**missouriensis** (Ashmead). Ill., Va.

**testaceicornis** (Cameron). Transf. to **Phaeogenes** Wesmael, p. 277.

### Tribe PLATYLABINI

(= *Pristiceratini* of Catalog)

Taxonomy: Heinrich, 1962, Pt. VI, pp. 697-704.

#### Genus APAELETICUS Wesmael, p. 280

**americanus** Cushman.

Taxonomy: Heinrich, 1962, Pt. VI, pp. 792-793 (♂ descr.).

\***brunnescens** Heinrich. Maine.

*Apaeticus brunnescens* Heinrich, 1962. Pt. VI. Canad. Ent. Sup. 27: 793. ♂, ♀.

#### Genus CYCLOLABUS Heinrich, p. 280

\***albicinctus** Heinrich. N. S. (Parrsboro). Host: *Acasis viridata* Pack.

*Cyclolabus albicinctus* Heinrich, 1962. Pt. VI. Canad. Ent. Sup. 27: 756, 757, 771. ♂, ♀.

\***arizonae** Heinrich. Ariz.

*Cyclolabus arizonae* Heinrich, 1962. Pt. VI. Canad. Ent. Sup. 27: 757, 765. ♂, ♀.

\***carolinensis** Heinrich. S. C. (nr. Tigerville).

*Cyclolabus carolinensis* Heinrich, 1962. Pt. VI. Canad. Ent. Sup. 27: 757, 764. ♀.

\***dubiosus** Perkins. (Misdet. as *C. pactor* (Wesmael) in Catalog, p. 280). Alta., B. C., Wash., Oreg., Colo., ?N. S., ?Newfoundland; Europe. Hosts: *Eupithecia annulata* Hlst., *E. filmata* Pears, ?*E. luteata* Pack., ?*E. palpata* Pack.

*Cyclolabus dubiosus* Perkins, 1953. Brit. Mus. (Nat. Hist.) Bul., Ent. 3 (4): 156. ♂, ♀.

\***gibsonatae** Heinrich. Ont., B. C. Host: *Eupithecia chagnoni* Swett.

*Cyclolabus gibsonatae* Heinrich, 1962. Pt. VI. Canad. Ent. Sup. 27: 757, 764. ♀.

**gracilicornis** *gracilicornis* (Provancher), changed status. Labrador, Que., Maine, N. H., N. Y., N. C. Transf. from **Ectopius** Wesmael, p. 281 and reduced to subsp. rank (*teste* Heinrich, 1959, Ent. News 70 (8): 216).

Taxonomy: Heinrich, 1962, Pt. VI, pp. 757, 758, 763 (♂ descr.).

**gracilicornis subdentatus** (Ashmead), changed status. Alaska to Calif., Colo. Host: *Eupithecia edna* Hlst. Transf. from **Ectopius** Wesmael, p. 282 and reduced to subsp. rank (*teste* Heinrich, 1959. Ent. News 70 (8): 216. ♂, ♀.).

Taxonomy: Heinrich, 1962, Pt. VI, pp. 757, 763-764 (♂ descr.).

**impressus** *impressus* (Provancher), changed status. Delete Wash. from distr., add: Maine, Ont. Transf. from **Ectopius** Wesmael, p. 281 (*teste* Heinrich, 1959. Canad. Ent. 91 (12): 807). Reduced to subsp. rank (*teste* Heinrich, 1962, Pt. VI, pp. 757, 758, 759).

*Ichneumon erythropygus* Provancher. Change sex sign to: "♀" = ♂. (*Teste* Heinrich, 1959, Canad. Ent. 91 (12): 807.)

\***impressus infuscatus** Heinrich. Alta., B. C., Wash.

*Cyclolabus impressus infuscatus* Heinrich, 1962. Pt. VI. Canad. Ent. Sup. 27: 757, 758, 760. ♂, ♀.

\***lobatus lobatus** Heinrich. Maine, Que., N. Y.

*Cyclolabus lobatus lobatus* Heinrich, 1962. Pt. VI. Canad. Ent. Sup. 27: 757, 758, 761. ♂, ♀.

\**lobatus occidentalis* Heinrich. Alta.

*Cyclolabus lobatus occidentalis* Heinrich, 1962. Pt. VI. Canad. Ent. Sup. 27: 756, 758, 761. ♂, ♀.

*pactor* (Wesmael). Remove from Catalog, p. 280; is European.

\**signatus* (Provancher). Maine, N. H. Transf. from *Platylabus* Wesmael, p. 281 (*teste* Heinrich, 1959. Canad. Ent. 91 (12): 807).

Genus **PLATYLABUS** Wesmael, pp. 280-281

?*Stenolabus* Heinrich. Valid segregate; see \**Asthenolabus* Heinrich, n. name.

\**abbreviatus* Heinrich. B. C. (Robson).

*Platylabus abbreviatus* Heinrich, 1962. Pt. VI. Canad. Ent. Sup. 27: 701, 753. ♀.

\**alaskae* Heinrich. Alaska.

*Platylabus alaskae* Heinrich, 1962. Pt. VI. Canad. Ent. Sup. 27: 700, 721. ♀.

\**albidorsus* Heinrich. Maine, Que., Ont.

*Platylabus albidorsus* Heinrich, 1962. Pt. VI. Canad. Ent. Sup. 27: 702, 740. ♀.

\**arizonae* Heinrich. Ariz., Calif.

*Platylabus arizonae* Heinrich, 1962. Pt. VI. Canad. Ent. Sup. 27: 699, 703, 715. ♂, ♀.

\**berndi* Heinrich. Maine, Ont. Hosts: Geometridae.

*Platylabus berndi* Heinrich, 1962. Pt. VI. Canad. Ent. Sup. 27: 700, 703, 731. ♂, ♀.

*californicus* Cresson. Syn. of *rufipes consors* Cresson.

*canadensis* Cresson. Transf. to *Asthenolabus* Heinrich.

*clarus* (Cresson). Maine, Que., Ont., N. Y., Pa., N. C. Host: *Abbotana clemataria* A. & S.

*Platylabus metallicus* Bradley. Remove from syn. A valid sp.

\**columbiae* Heinrich. B. C., Calif.

*Platylabus columbiae* Heinrich, 1962. Pt. VI. Canad. Ent. Sup. 27: 700, 716. ♀.

*consors* Cresson. A subsp. of *rufipes* Provancher.

\**divisatae* Heinrich. Newfoundland, Que., B. C. Host: *Caripeta divisata* Wlk.

*Platylabus divisatae* Heinrich, 1962. Pt. VI. Canad. Ent. Sup. 27: 699, 702, 709. ♂, ♀.

\**duplificans* Heinrich. Colo.

*Platylabus duplificans* Heinrich, 1962. Pt. VI. Canad. Ent. Sup. 27: 700, 703, 726. ♂, ♀.

\**erythrocoxa* Heinrich. N. S., Maine, N. W. T., B. C., Calif.

*Platylabus erythrocoxa* Heinrich, 1962. Pt. VI. Canad. Ent. Sup. 27: 700, 703, 719. ♂, ♀.

\**foxleei* Heinrich. B. C., Alaska.

*Platylabus foxleei* Heinrich, 1962. Pt. VI. Canad. Ent. Sup. 27: 700, 723. ♂, ♀.

*gracilicornis* (Viereck). Calif. Change bibliog. ref. p. 78 to 79.

Taxonomy: Heinrich, 1962, Pt. VI, pp. 702, 745-746.

\**hyperetis* Heinrich. Maine, B. C. Host: *Hyperetis amicaria*. H.-S.

*Platylabus hyperetis* Heinrich, 1962. Pt. VI. Canad. Ent. Sup. 27: 699, 702, 707. ♂, ♀.

\**imitans* Heinrich. Maine, Que., B. C., Wash., Calif. Host: *Eupithecia* sp.

*Platylabus imitans* Heinrich, 1962. Pt. VI. Canad. Ent. Sup. 27: 700, 703, 725. ♂, ♀.

**incabus** Davis. B. C., Calif., Ariz.

Taxonomy: Heinrich, 1962, Pt. VI, pp. 700, 703, 717-719 (♂ descr.).

**lineolatus** (Provancher). Maine, Que., Ont., Mich., B. C. Host: *Hydriomena renunciata columbiata* Taylor.

**Phygadeuon rufipes** Provancher. Remove from syn. A valid species.

Taxonomy: Heinrich, 1962, Pt. VI, pp. 701, 704, 734-736 (♂ descr.).

\***lissosculptus** Heinrich. Calif. (Leevining).

**Platylabus lissosculptus** Heinrich, 1962. Pt. VI. Canad. Ent. Sup. 27: 704, 742. ♂.

\***luteatae** Heinrich. Que., Ont., Man., B. C., Oreg. Hosts: *Eupithecia* sp., *E. luteata* Pack.

**Platylabus luteatae** Heinrich, 1962. Pt. VI. Canad. Ent. Sup. 27: 699, 703, 715. ♂, ♀.

\***melanocoxa** Heinrich. B. C., Wash., Calif., Colo. Host: *Eupithecia annulata* Hlst.

**Platylabus melanocoxa** Heinrich, 1962. Pt. VI. Canad. Ent. Sup. 27: 700, 703, 727. ♂, ♀. (**P. pedatorius** Fabricius in Catalog, misdet.)

**metallicus** Bradley. Maine, Que., N. H., Ont., Mich., Wash., B. C. A valid sp. (teste Heinrich, 1959. Ent. News 70 (8): 215).

Taxonomy: Heinrich, 1962, Pt. VI, pp. 710-711.

\***micheneri** Heinrich. Calif. (Inyo Mts.).

**Platylabus micheneri** Heinrich, 1962. Pt. VI. Canad. Ent. Sup. 27: 702, 746. ♀.

\***monotonops** Heinrich. N. Y. (Long Is.).

**Platylabus monotonops** Heinrich, 1962. Pt. VI. Canad. Ent. Sup. 27: 702, 744. ♀.

\***monotonus** Heinrich. N. H., N. Y., Ariz., Alta., B. C., Alaska. Hosts: *Itame antaria* Swett., *I. quadrilinearia* Pack., *Oporinia autumnata* Gn.

**Platylabus monotonus** Heinrich, 1962. Pt. VI. Canad. Ent. Sup. 27: 702, 704, 741. ♂, ♀.

**montanus** Cresson. Mass., Mich.; delete Wash.

**Platylabus vafer** (Cresson). Preocc. Change sex sign to: "♀" = ♂.

**Platylabus perkinsi** Walkley. (N. name for **vafer** (Cresson) Sup. 1, p. 48.) Syn. teste Heinrich, 1959, Ent. News 70 (8): 215.

\***opaculus americanus** Heinrich. Transcont. in Transit. Zone.

**Platylabus opaculus americanus** Heinrich, 1962. Pt. VI. Canad. Ent. Sup. 27: 701, 704, 730. ♂, .

**ornatus** (Provancher). N. B., Maine, N. C., Ont., Sask., Alta., B. C. Hosts: *Semiothisa granitata* Gn.; *S. oweni* Swett.

**pedatorius** (Fabricius). Delete from Catalog; not in Nearctic fauna (teste Heinrich, 1962, Pt. VI, p. 727).

**perkinsi** Walkley. Syn. of **Platylabus montanus** Cresson.

\***permodestus** Heinrich. B. C., Wash., Calif., Colo.

**Platylabus permodestus** Heinrich, 1962. Pt. VI. Canad. Ent. Sup. 27: 700, 703, 720. ♂, ♀.

\***polymelas** Heinrich. Colo., Ariz., B. C.

**Platylabus polymelas** Heinrich, 1962. Pt. VI. Canad. Ent. Sup. 27: 704, 754. ♂.

\***pseudhistrio** Heinrich. Maine (Dallas).

**Platylabus pseudhistrio** Heinrich, 1962. Pt. VI. Canad. Ent. Sup. 27: 703, 733. ♂.

\***rainieri** Heinrich. Wash., B. C.

**Platylabus rainieri** Heinrich, 1962. Pt. VI. Canad. Ent. Sup. 27: 700, 702, 722, ♂, ♀.



**rubricapensis** Provancher. Que., Ont., S. Dak., Idaho.

\***rubristernatus** Heinrich. N. Y., N. C., Ohio, Ill.

*Platylabus rubristernatus* Heinrich, 1962. Pt. VI. Canad. Ent. Sup. 27: 699, 713. ♀.

**rufipes consors** Cresson, changed status. Ariz., Calif., B. C., Alta., Alaska.  
Hosts: *Hydriomena* sp., *H. renunciata* Wlk. Reduced to subsp.  
rank (*teste* Heinrich, 1959. Ent. News 70 (8): 215).

*Platylabus californicus* Cresson (syn. *teste* Heinrich, 1959, *op. cit.* p. 216).

**rufipes rufipes** (Provancher), changed status. Que., Maine. A valid species; reduced to subsp. rank (*teste* Heinrich, 1959. Ent. News 70 (8): 216).

**scutellatus** (Provancher). Transf. to \**Asthenolabus* Heinrich.

*Eurylabus agilis* Cresson. Transf. to \**Asthenolabus* Heinrich as valid sp.

\***semiopacus** Heinrich. Colo. (Phantom Valley).

*Platylabus semiopacus* Heinrich, 1962. Pt. VI. Canad. Ent. Sup. 27: 701, 704, 730. ♂, ♀.

\***serratae** Heinrich. N. B., Maine. Host: *Euchlaena serrata* Drury.

*Platylabus serratae* Heinrich, 1962. Pt. VI. Canad. Ent. Sup. 27: 702, 704, 738. ♂, ♀.

\***sexmaculatae** Heinrich. Maine, Alta. Host: *Semiothisa sexmaculata* Pack.

*Platylabus sexmaculatae* Heinrich, 1962. Pt. VI. Canad. Ent. Sup. 27: 701, 749. ♀.

**signatus** (Provancher). Transf. to *Cyclolabus* Heinrich.

\***subrubricus** Heinrich. Man., Sask., Alta. Host: *Eupithecia ravocostiliata* Pack.

*Platylabus subrubricus* Heinrich, 1962. Pt. VI. Canad. Ent. Sup. 27: 699, 703, 714. ♂, ♀.

\***tenuiformis** Heinrich. Ariz. (Sierra Ancha, Parker Creek).

*Platylabus tenuiformis* Heinrich, 1962. Pt. VI. Canad. Ent. Sup. 27: 702, 704, 743. ♂, ♀.

**tibialis** Ashmead. N. Mex.

Taxonomy: Heinrich, 1962, Pt. VI. pp. 700, 723 (relationships discussed).

**vafer** (Cresson). Syn. of **montanus** Cresson.

\***vaferops** Heinrich. B. C., Wash., Calif.

*Platylabus vaferops* Heinrich, 1962. Pt. VI. Canad. Ent. Sup. 27: 701, 704, 751. ♂, ♀.

#### \*Genus TROPICOLABUS Heinrich

*Tropicolabus* Heinrich, 1959. Ent. News 70 (8): 216.

Type: *Platylabus foxi* Davis. By monotypy and orig. desig.

Place in *Platylabini* after *Platylabus* Wesmael, p. 281.

**foxi** (Davis). N. J. Transf. from *Thaumatoteles* Hopper and from syn. of *T. ornatus* (Cresson) p. 281 (*teste* Heinrich, 1959. Ent. News 70 (8): 216).

#### \*Genus ASTHENOLABUS Heinrich

*Stenolabus* Heinrich, 1935. Preocc. Transf. from syn. of *Platylabus* Wesmael (*teste* Heinrich, 1951. Bonn. Zool. Beitr. 2 (3/4): 240).

*Asthenolabus* Heinrich, 1951. Bonn. Zool. Beitr. 2 (3/4): 240. N. name.

Place on p. 281 of Catalog, after \**Tropicolabus* Heinrich.

**agilis** (Cresson). N. S., P. E. I., Maine, Que., Mass., N. Y., N. W. T., S. Dak., Colo., Wyo., Oreg. Transf. from syn. of *Platylabus scutellatus* (Provancher) p. 281. A valid sp. (*teste* Heinrich, 1959. Ent. News 70 (8): 215).

Taxonomy: Heinrich, 1962, Pt. VI, pp. 773, 774-776.

**canadensis** (Cresson). N. C.

Taxonomy: Heinrich, 1962, Pt. VI, pp. 773, 776. ♂, ♀ (♂ descr.).

**scutellatus** (Provancher). Que., Ont., N. Y. Transf. from **Platylabus** Wesmael, p. 281 (*teste* Heinrich, 1959. Canad. Ent. 91 (12): 807).

Taxonomy: Heinrich, 1962. Pt. VI, pp. 773-774 (♀ descr.).

**Genus PRISTICEROS Gravenhorst, p. 281**

\***Neopristicerops** Heinrich, 1961 (1960). Pt. I, Canad. Ent. Sup. 15 [vol. 92]: 13. (Syn. *teste* Heinrich, 1962, Pt. VI, pp. 783-784.)

Type: **Ichneumon lascivus** Cresson. By monotypy and orig. desig.

**bakeri** (Davis). Transf. to **Pristicerops** Heinrich.

**lascivus** (Cresson). Maine, Que., Ont., Wash.

Taxonomy: Heinrich, 1962, Pt. VI, pp. 783, 784, 785-786 (♂ descr.; affinities).

**\*Genus PRISTICEROPS Heinrich**

**Pristicerops** Heinrich, 1962. Pt. VI. Canad. Ent. Sup. 27: 786.

Type: **Platylabus bakeri** Davis. By orig. desig.

Place on p. 281 of Catalog after genus **Pristicerops** Gravenhorst.

**bakeri bakeri** (Davis), changed status. Maine, Que., N. H., Mich., Alta. Host: *Deilinia* sp. Reduced to subsp. rank and transf. from **Pristicerops** Gravenhorst (*teste* Heinrich, 1962, Pt. VI, pp. 786, 787, 789).

\***bakeri townesi** Heinrich. Wash. (Westport).

**Pristicerops bakeri townesi** Heinrich, 1962. Pt. VI. Canad. Ent. Sup. 27: 789. ♂, ♀.

**Genus Thaumatoteles Hopper, p. 281**

**Thaumatoteles** Hopper. Syn. of **Ambloplisus** Heinrich.

**ornatus** (Cresson). Transf. to **Ambloplisus** Heinrich.

**Platylabus foxi** Davis. Transf. to **Tropicolabus** Heinrich as valid sp.

**\*Genus AMBLOPLISUS Heinrich**

**Ambloplisus** Heinrich, 1930. Berlin Zool. Mus. Mitt. 15 (3/4): 551.

Type: **Ambloplisus primus** Heinrich. By monotypy.

**Thaumatoteles** Hopper. (Syn. *teste* Heinrich, 1959. Ent. News 70 (8): 216.)

**ornatus** (Cresson). N. C., Idaho. Transf. from **Thaumatoteles** Hopper (*teste* Heinrich, 1959. Ent. News 70 (8): 216). Remove **foxi** Davis from syn., and transf. to **Tropicolabus** Heinrich as valid sp.

Taxonomy: Heinrich, 1962, Pt. VI, pp. 790-791 (♂ descr.).

**Genus HYPOMECUS Wesmael, p. 281**

**quadriannulatus** (Gravenhorst). B. C.

**Genus Ectopius Wesmael, pp. 281-282**

Delete from Catalog; no Nearctic spp.

**gracilicornis** (Provancher). Transf. to **Cyclolabus** Heinrich, p. 280.

**impressus** (Provancher). Transf. to **Cyclolabus** Heinrich, p. 280.

**subdentatus** (Ashmead). Transf. to **Cyclolabus** Heinrich as subsp. of **gracilicornis** (Provancher).

**thoracicus** (Cresson). Transf. to **Linyeus** Cameron as subsp. of **exhortator** (Fabricius).

**\*Genus LINYCUS Cameron**

*Linycus* Cameron, 1903. Entomologist 36: 234.

\*Type: *Linycus rufipes* Cameron. By monotypy.

Place on p. 281 of Catalog, in place of genus *Ectopius* Wesmael (no Nearctic spp.).

\**exhortator montanus* Heinrich. Colo. (Phantom Valley). *L. exhortator exhortator* (Fabricius) is European.

*Linycus exhortator montanus* Heinrich, 1962. Pt. VI. Canad. Ent. Sup. 27: 778, 781. ♂.

*exhortator thoracicus* (Cresson), changed status. Maine, Ont., Mich., Ind., Mo. Change ♂ sex sign after bibliog. ref. to: "♂" = ♀. Transf. from *Ectopius* Wesmael (*teste* Heinrich, 1962, Pt. VI, pp. 778, 780). Reduced to subsp. rank (*teste* Heinrich, 1956. Canad. Ent. 88 (11): 651).

\**nigriceps alaskae* Heinrich. Alaska.

*Linycus nigriceps alaskae* Heinrich, 1962. Pt. VI. Canad. Ent. Sup. 27: 778, 782. ♂, ♀.

*nigriceps arizonensis* Heinrich. Arizona (nr. Alpine).

*Linycus nigriceps arizonicus* Heinrich, 1962. Pt. VI. Canad. Ent. Sup. 27: 778, 782. ♂.

\**nigriceps niger* Heinrich. Alaska (Palmer).

*Linycus nigriceps niger* Heinrich, 1962. Pt. VI. Canad. Ent. Sup. 27: 783. ♂.

\**nigriceps nigriceps* Heinrich. B. C., Wash., Oreg.

*Linycus nigriceps nigriceps* Heinrich, 1962. Pt. VI. Canad. Ent. Sup. 27: 778, 781, 782. ♂, ♀.

**Tribe LISTRODROMINI**

Taxonomy: Heinrich, 1962, Pt. VI, pp. 687-688.

**Genus ANISOBAS Wesmael, p. 282**

*Lycaenophilos* Heinrich. Delete from syn.; valid genus not in Nearctic fauna.

Taxonomy: Heinrich, 1962, Pt. VI, pp. 690-692 (key to spp.).

*bicolor* Cushman. ?B. C.

*coloradensis* (Cresson). S. Dak.

Taxonomy: Heinrich, 1962, Pt. VI, pp. 691, 692, 693-694 (♂ descr.).

*luzernensis* (Bradley). Maine, Que., N. Y., Pa., Ont.

*Anisobas nearcticus* Cushman (syn. *teste* Heinrich, 1962. Pt. VI, 691, 692, 695).

*texensis* (Ashmead). Tex., Conn., ?Man. Hosts: ?*Incisalia nippon* Hbn., *Strymon* sp.

*Platylabus luzernensis* Bradley. Remove from syn. Valid sp. (*teste* Heinrich, 1962, Pt. VI, p. 695).

*Anisobas nearcticus* Cushman. Transf. to syn. of *luzernensis*.

**Genus NEOTYPUS Foerster, p. 282**

*nobiligator* (Gravenhorst). Alta. Host: *Everes comyntas* (Gdt.).

**Tribe ISCHNOJOPPINI**

Delete from Catalog (*teste* Heinrich, 1962, Pt. V, p. 661, in text under *Trogomorpha* Ashmead, which is placed in Ichneumonini).

## Tribe ACANTHOJOPPINI

## Genus NARTHECURA Townes, p. 284

Transf. from Ichneumonini, p. 284 (*teste* Heinrich, 1962, Pt. VI, p. 681). Place after tribal heading **Acanthojoppini**, p. 283.

\**invadens* Heinrich. Ariz., N. Mex.

*Narthecura invadens* Heinrich, 1962. Pt. VI. Canad. Ent. Sup. 27: 682.  
♂, ♀.

## Genus LOBAEGIS Townes, p. 284

Transf. from Ichneumonini, p. 284 (*teste* Heinrich, 1962, Pt. VI, p. 683). Place before **Pseudoplatylabus** Smits van Burgst, p. 283.

\**septentrionalis* Heinrich. N. Y., W. Va., S. C.

*Lobaegis septentrionalis* Heinrich, 1962. Pt. VI. Canad. Ent. Sup. 27: 684. ♂, ♀.

## Genus PSEUDOPLATYLABUS Smits van Burgst, p. 283

\**townesi* Heinrich. R. I., N. Y., Md.

*Pseudoplatylabus townesi* Heinrich, 1962. Pt. VI. Canad. Ent. Sup. 27: 686. ♂, ♀.

\**violentus* (Gravenhorst). Mich.; Europe. Host: "Noctuid".

*Ichneumon violentus* Gravenhorst, 1829. Ichn. Europaea, v. 1, p. 613.

\**Hoplismenus infaustus* Wesmael, 1844. Acad. Sci. Bruxelles, Nouv. Mem. 18: 110.

\**Pseudoplatylabus caudatus* Smits van Burgst, 1920. Ent. Ber. V (116): 282. ♀.

Taxonomy: Heinrich, 1962, Pt. VI, pp. 685-686.

## Tribe EURYLABINI

Delete from Catalog; no Nearctic representatives. Transf. **Probolus** Wesmael to Ichneumonini, p. 283 (*teste* Heinrich, 1962, Pt. V, p. 518).

## Tribe ICHNEUMONINI

(= *Amblytelini* of Catalog)

## Genus TROGOMORPHA Ashmead, p. 282

*arrogans* (Cresson).

Taxonomy: Heinrich, 1962, Pt. V, pp. 662-663.

## Genus PROBOLUS Wesmael, p. 283

*detritus* (Brullé). Transf. from syn. of **Ctenichneumon syphax** (Cresson), p. 296; valid species (*teste* Townes, 1961. Ent. Soc. Wash. Proc. 63 (2): 107).

*Probolus illaetabilis* (Cresson) (syn. *teste* Townes, 1961, *loc. cit. supra*).

*expunctus* (Cresson). Maine, Man., B. C., ?Alaska.

*Probolus indistinctus* (Provancher) (syn. *teste* Heinrich, 1962, Pt. V, p. 520).

*illaetabilis* (Cresson). Syn. of *detritus* (Brullé).

*indistinctus* (Provancher). Syn. of *expunctus* (Cresson).

## \*Genus PLATYLABOPS Heinrich

*Platylabops* Heinrich, 1950. Mitt. Samml. Schmarotzerb. 27: 4, 5.

Type: *Platylabops hinzi* Heinrich. By monotypy.

Place in Ichneumonini before **Hoplismenus** Gravenhorst, p. 283.

\**apricus nearcticus* Heinrich. Maine, N. Y. *P. apricus apricus* (Gravenhorst) is European.

*Platylabops apricus nearcticus* Heinrich, 1962. Pt. V. Canad. Ent. Sup. 26: 641, 648. ♂, ♀.

- \**eupitheciarum* Heinrich. B. C., Alta.  
*Platylabops eupitheciarum* Heinrich, 1962. Pt. V. Canad. Ent. Sup. 26:  
 642, 648. ♂.
- \**fraterculus* Heinrich. Maine, Vt., N. Y.  
*Platylabops fraterculus* Heinrich, 1962. Pt. V. Canad. Ent. Sup. 26: 641,  
 642, 644. ♂, ♀.
- \**holerythrus* Heinrich. B. C. Host: *Eupithecia transcanadata* Mack.  
*Platylabops holerythrus* Heinrich, 1962. Pt. V. Canad. Ent. Sup. 26:  
 641, 645. ♀.
- leucopsis* (Ashmead). Transf. from *Aoplus* Tischbein, p. 290 (*teste* Heinrich,  
 1962, Pt. V, pp. 641, 645).  
 Taxonomy: Heinrich, 1962, Pt. V, pp. 641, 645-646 (♀ descr.).
- \**pecki novaescotiae* Heinrich. N. S.  
*Platylabops pecki novaescotiae* Heinrich, 1962. Pt. V. Canad. Ent. Sup.  
 26: 641, 643. ♀.
- \**pecki pecki* Heinrich. Sask.  
*Platylabops pecki pecki* Heinrich, 1962. Pt. V. Canad. Ent. Sup. 26:  
 641, 642. ♂, ♀.

Genus HOPLISMENUS Gravenhorst, pp. 283-284

- \**Peritaenius* Foerster, 1868. Naturh. Ver. Rheinlande Verh. 25: 190.  
 (Syn. *teste* Heinrich, 1949. München. Ent. Gesell. Mitt. 35-39:  
 52.)  
 Type: *Peritaenius bavaricus* Clément = *Hoplismenus istrianus*  
 (Clément). Incl. and desig. by Clément, 1927.
- \**Zanthojoppa* Cameron, 1901. Ann. and Mag. Nat. Hist. (7) 7: 378.  
 (Syn. *teste* Townes, Townes, and Gupta, 1961, p. 356.)  
 Type: *Zanthojoppa trilineata* Cameron. By monotypy.
- \**Xanthojoppa* Cameron, 1903. Ann. and Mag. Nat. Hist. (7) 11: 182.  
 Emend.
- \**Taeniaspis* Clément, 1927. Konowia 6 (1): 67, 71. (Syn. *teste* Townes,  
 Townes, and Gupta, 1961, p. 356.)  
 Type: *Taeniaspis flavitarsis* Clément. By monotypy.
- morulus morulus* (Say). Canad. Zone: N. W. T.
- morulus pacificus* Cresson. Mont.
- \**polyleucus* Heinrich. Ont.  
*Hoplismenus polyleucus* Heinrich, 1962. Pt. V. Canad. Ent. Sup. 26:  
 652, 659. ♂.
- praeruptus* Swift. ?Ont.
- propitius* (Cresson). Transf. to *Ichneumon* Linnaeus, p. 300.
- \**rutilus borealis* Heinrich. N. W. T., Man., Sask.  
*Hoplismenus rutilus borealis* Heinrich, 1962. Pt. V. Canad. Ent. Sup.  
 26: 651, 652, 657. ♂, ♀.
- rutilus rutilus* (Cresson). P. E. I., Maine, Que., Ont.  
*Hoplismenus scutellatus* (Provancher) (syn. *teste* Heinrich, 1962, Pt. V,  
 p. 656).
- rutilus tenuis* Swift. Syn. of *rutilus transversus* Davis.
- rutilus transversus* Davis, changed status. Oreg., Idaho, Wyo., Colo. Removed  
 from syn. of *scutellatus* (Provancher) and reduced to subsp. rank  
 (*teste* Heinrich, 1962, Pt. V, p. 656).  
*Hoplismenus rutilus tenuis* Swift (syn. *teste* Heinrich, 1962, Pt. V, p.  
 656).
- scutellatus* (Provancher). Syn. of *rutilus rutilus* (Cresson), p. 284.  
*Hoplismenus transversus* Davis. A valid subsp. of *rutilus* Cresson.
- teres* Swift. Transf. to *Hemihoplis* Heinrich, *infra*.

**\*Genus HEMIHOPLIS Heinrich**

*Hemihoplis* Heinrich, 1961 (1960). Pt. I. Canad. Ent. Sup. 15 [vol. 92]: 15.

Type: *Hoplismenus teres* Swift. By monotypy and orig. desig.

Place on p. 284 after *Hoplismenus* Gravenhorst.

*teres* (Swift). Transf. from *Hoplismenus* Gravenhorst, p. 384 (*teste* Heinrich, 1961 (1960), Pt. I, p. 15; 1962, Pt. V, pp. 660, 661).

**\*Genus HYBOPHORELLUS Schulz**

\**Hybophorus* Tischbein, 1875. Stettin. Ent. Zeit. 36: 281. Preocc.

Type: *Ichneumon aulicus* Gravenhorst. By monotypy.

*Hybophorellus* Schulz, 1911 (1909). Zool. Ann. 4 (1-2); 38. N. name.

Place in *Ichneumonini* on p. 284 after *Hoplismenus* Gravenhorst.

\**baffinensis* Heinrich. Baffin Is.

*Hybophorellus baffinensis* Heinrich, 1962. Pt. V. Canad. Ent. Sup. 26: 562, 565. ♂.

\**injucundus* nearcticus Heinrich. N. W. T. H. *injucundus* /*injucundus*/ (Wesmael) is European.

*Hybophorellus injucundus nearcticus* Heinrich, 1956. Canad. Ent. 88 (2): 649, 650. ♂, ♀.

\**townesi* Heinrich. Sask.

*Hybophorellus townesi* Heinrich, 1956. Canad. Ent. 88 (2): 649. ♂, ♀.

**Genus LOBAEGIS Townes, p. 284**

Transf. to *Acanthojoppini*, p. 283.

**Genus NARTHECURA Townes, p. 284**

Transf. to *Acanthojoppini*, p. 283.

**Genus PLAGIOTRYPES Ashmead, p. 284**

*concinus* (Say). N. Y.

**\*Genus RUBICUNDIELLA Heinrich**

*Rubicundiella* Heinrich, 1961 (1960). Pt. 1. Canad. Ent. Sup. 15 [vol. 92]: 15.

Type: *Ichneumon mucronatus* Provancher. By monotypy and orig. desig.

Place in *Ichneumonini* on p. 284 before *Melanichneumon* Thomson.

*annulicornis* (Ashmead). Ga. Transf. from *Melanichneumon* Thomson, p. 285 (*teste* Heinrich, 1962, Pt. V, pp. 568, 569).

*blanchardi* (Davis). Maine, Que., N. H., Mass. Transf. from syn. of *Melanichneumon rubicundus* (Cresson), p. 286 (*teste* Heinrich, 1962, Pt. V, pp. 567, 568, 571).

Taxonomy: Heinrich, 1962, Pt. V, p. 571 (♂ descr.).

\**deuteromelas* Heinrich. Maine, Yukon.

*Rubicundiella deuteromelas* Heinrich, 1962. Pt. V. Canad. Ent. Sup. 26: 568, 573. ♂.

*mucronata* (Provancher). Que., Md., Kans.

*Ichneumon mucronatus* Provancher (erroneously syn. under *Melanichneumon rubicundus* (Cresson), p. 286). Change sex symbol to: "♀" = ♂.

\**perturbatrix* Heinrich. Atlantic to 100° W. in Transit., U. and L. Austr. Zones, Calif.; Hawaii.

*Melanichneumon rubicundus* (Cresson). Preocc.

*Melanichneumon mucronatus* Auctt., not Provancher.

*Rubicundiella perturbatrix* Heinrich, 1962. Pt. V. Canad. Ent. Sup. 26: 568, 577. N. name.

- \***simplicior** Heinrich. Sask., B. C. Hosts: *Fishia discors* Grt.; *Ramosia bioniformis* (Bdvl.), ?*Heliothis ononis* (Denis and Schiff.).  
**Rubicundiella simplicior** Heinrich, 1962. Pt. V. Canad. Ent. Sup. 26: 567, 568, 575. ♂, ♀.

Genus **MELANICHNEUMON** Thomson, pp. 284–287, Sup. 1, p. 49

- Bystra** Cameron. Remove from Catalog. A valid, extralimital genus (*teste* Heinrich, 1937, Ann. and Mag. Nat. Hist. (Ser. 10) 20: 261; Townes, Townes and Gupta, 1961, pp. 357, 464).
- Gurfya** Cameron. Syn. of subg. **Barichneumon** Thomson (*teste* Heinrich, 1937, Ann. and Mag. Nat. Hist. (Ser. 10) 20: 265; Townes, Townes and Gupta, 1961, p. 363).
- Harsaces** Cameron. Syn. of subg. **Barichneumon** Thomson (*teste* Heinrich, 1937, Ann. and Mag. Nat. Hist. (Ser. 10) 20: 265; Townes, Townes and Gupta, 1961, p. 363).
- Lissosculpta** Heinrich (proposed as subg. of **Melanichneumon** Thomson). Raised to generic rank; extralimital (*teste* Heinrich, 1938. Mem. l'Acad. Malgache, f. 25: 23, 103; Townes, Townes, and Gupta, 1961, pp. 378, 466).
- Intermedichneumon** Heinrich (proposed as subg. of **Melanichneumon** Thomson). Raised to generic rank; extralimital (*teste* Heinrich, 1959. Ent. News 70 (8): 211).
- Menkokia** Heinrich (proposed as subg. of **Melanichneumon** Thomson). Removed from Catalog. Syn. of **Bystra** Cameron (*teste* Townes, Townes, and Gupta, 1961, p. 357).
- absconditus** (Provancher). Placed in subg. **Melanichneumon** Thomson.
- albomarginatus** (Cresson). Placed in subg. **Vulgichneumon** Heinrich.
- annulicornis** (Ashmead). Transf. to **Rubicundiella** Heinrich, *supra*.
- blandii** (Cresson). Placed in subg. **Vulgichneumon** Heinrich.
- brevicinctor** (Say). Placed in subg. **Vulgichneumon** Heinrich.
- cordatus** (Cresson). A subsp. of **subcyaneus** Cresson, in subg. **Vulgichneumon** Heinrich.
- disparilis** (Cresson). Placed in subg. **Melanichneumon** Thomson.
- gestuosus** (Cresson). Transf. to **Ichneumon** Linnaeus, p. 298.
- Cratichneumon pluto** Viereck. Change page no. in bibliog, ref. to p. 79. Syn. of **Melanichneumon nigripes** (Provancher), p. 286.
- Amblyteles ohioensis** DeGant. Syn. of **nigripes** (Provancher).
- heiligbrodtii** (Cresson). Placed in subg. **Melanichneumon** Thomson.
- helvipes** Cresson. Placed as syn. of **anator** (Fabricius) in subg. **Barichneumon** Thomson.
- honestus** (Cresson). Placed in subg. **Melanichneumon** Thomson.
- leviculus** (Cresson). Placed in subg. **Melanichneumon** Thomson.
- libens** (Cresson). Placed in subg. **Barichneumon** Thomson.
- limbifrons** (Cresson). Not subgenerically assigned.
- mimicus** (Cresson). Placed in subg. **Vulgichneumon** Heinrich.
- mucronatus** (Provancher), misdet. (Sup. 1, p. 49). Transf. to **Rubicundiella** Heinrich as syn. of **perturbatrix** Heinrich, n. name for **rubicundus** Cresson.
- nigripes** (Provancher). Placed in subg. **Melanichneumon** Thomson.
- ornatipes** (Cresson). Syn. of **Melanichneumon** (**Rictichneumon**) **virginicus** (Cresson) p. 287.
- residuus** (Say). Placed in subg. **Rictichneumon** Heinrich.

*rubicundus* (Cresson). See Sup. 1, p. 49.

*Ichneumon mucronatus* (Provancher). A valid sp. Transf. to *Rubicundiella* Heinrich.

*Ichneumon blanchardi* Davis. A valid sp. Transf. to *Rubicundiella* Heinrich.

*saevus* (Cresson). Placed in subg. *Vulgichneumon* Heinrich.

*saundersii* (Cresson). Transf. to *Stenobarichneumon* Heinrich.

*solitus* (Cresson). Syn. of *subcyaneus cordatus* Cresson (subg. *Vulgichneumon* Heinrich).

*soror* (Cresson). Placed in subg. *Barichneumon* Thomson.

*subcyaneus* (Cresson). Placed in subg. *Vulgichneumon* Heinrich.

*texanus* (Cresson). Placed provisionally in subg. *Melanichneumon* Thomson.

*terminalis* (Cresson). Placed provisionally in subg. *Vulgichneumon* Heinrich.

*Ichneumon finitimus* Cresson. Syn. of subsp. *terminalis* (Cresson).

*Mesostenus apicalis* Provancher. Placed in subg. *Vulgichneumon* Heinrich as subsp. of *terminalis* (Cresson).

*Phygadeuon brevicaudus* Provancher. Syn. of subsp. *apicalis* Provancher.

*virginicus* (Cresson). Placed in subg. *Rictichneumon* Heinrich.

*vultus* (Cresson). Not subgenerically assigned.

*zebratus* (Cresson). Placed in subg. *Vulgichneumon* Heinrich.

#### MELANICHNEUMON subgenus MELANICHNEUMON Thompson

*absconditus* (Provancher). Maine, N. H., Alta., Wash., ? N. C.

Taxonomy: Heinrich, 1962, Pt. V, pp. 584, 602-604 (♀ descr.).

*belfragei* (Cresson). Transf. from *Pseudamblyteles* Ashmead, p. 292 (*teste* Heinrich, 1959. Ent. News 70 (8): 212).

*disparilis* (Cresson). Que.

Taxonomy: Heinrich, 1962, Pt. V, p. 587 (♂ descr.).

\**dreisbachi* Heinrich. Maine, Mich.

*Melanichneumon (Melanichneumon) dreisbachi* Heinrich, 1962. Pt. V. Canad. Ent. Sup. 26: 584, 585. ♂, ♀.

\**flavicarina* Heinrich. Maine, Que., Ont., Man. Host: *Protobarmia porcelaria* Gn.

*Melanichneumon (Melanichneumon) flavicarina* Heinrich, 1962. Pt. V. Canad. Ent. Sup. 26: 585, 594. ♂, ♀.

\**foxleei* Heinrich. B. C. (Robson).

*Melanichneumon (Melanichneumon) foxleei* Heinrich, 1962. Pt. V. Canad. Ent. Sup. 26: 584, 586. ♂.

*heilighbrodtii* (Cresson). Md., N. C., S. C.

Taxonomy: Heinrich, 1962, Pt. V. pp. 585, 592-594 (♀ descr.).

*honestus* (Cresson). Md., N. C., S. C.

Taxonomy: Heinrich, 1962, Pt. V. pp. 585, 592-594 (♀ descr.).

\**indecoratus* Heinrich. P. E. I., Maine, Que., Ont., ? N. Y.

*Melanichneumon (Melanichneumon) indecoratus* Heinrich, 1962. Pt. V. Canad. Ent. Sup. 26: 584, 589. ♂, ♀.

\**leviculops* Heinrich. Maine, Que., Ont.

*Melanichneumon (Melanichneumon) leviculops* Heinrich, 1962. Pt. V. Canad. Ent. Sup. 26: 584, 600. ♀.

*leviculus* (Cresson). Que., Ont.

Taxonomy: Heinrich, 1962, Pt. V, pp. 584, 599-600 (♀ descr.).

\**lissorufus* Heinrich. Labrador, Que., Maine, Ont., N. Y., Mich.

*Melanichneumon (Melanichneumon) lissorufus* Heinrich, 1962. Pt. V. Canad. Ent. Sup. 26: 584, 591. ♂, ♀.

*nigripes* (Provancher).

*Cratichneumon pluto* Viereck (syn. *teste* Heinrich, 1959, Ent. News 70 (8): 212).



*Amblyteles ohioensis* DeGant (syn. *teste* Heinrich, 1959, Ent. News 70 (8): 212).

\**peramoenus* Heinrich. Que., Ont., Md.

*Melanichneumon* (?subgenus) *peramoenus* Heinrich, 1962. Pt. V. Canad. Ent. Sup 26: 631. ♂.

?*texanus* (Cresson). Maine, Mich.

Taxonomy: Heinrich, 1962, Pt. V, pp. 632-633 (♀ needed for subg. assignment).

\**townesi* Heinrich. N. Y., R. I.

*Melanichneumon* (*Melanichneumon*) *townesi* Heinrich, 1962. Pt. V. Canad. Ent. Sup. 26: 585, 596. ♂, ♀.

\***MELANICHNEUMON** subgenus **VULGICHEUMON** Heinrich

*Melanichneumon* (*Vulgichneumon*) Heinrich, 1961 (1960). Pt. I. Canad. Ent. Sup. 15 [vol. 92]: 17.

Type: *Ichneumon brevicinctor* Say. By monotypy and orig. desig.

Place on page 287 of Catalog as second subg. of *Melanichneumon* Thomson. Species placements *teste* Heinrich, 1962, Pt. V, pp. 605-619.

*albomarginatus* (Cresson). Maine, N. J.

Taxonomy: Heinrich, 1962, Pt. V, pp. 605, 611 (♀ descr.).

*blandii* (Cresson). Ont.

Taxonomy: Heinrich, 1962, Pt. V, pp. 605, 612-614 (♀ descr.).

*brevicinctor* (Say). Host: *Papaipema nebris* (Gn.).

*mimicus* (Cresson). Newfoundland.

Taxonomy: Heinrich, 1962, Pt. V, pp. 605, 614-616 (♀ descr.).

*saevus* (Cresson). Maine.

*subcyaneus cordatus* (Cresson), changed status. Colo., Wash., B. C., ?N. Mex. Reduced to subsp. rank (*teste* Heinrich, 1959, Ent. News 70 (8): 212).

*Ichneumon solitus* Cresson (syn. *teste* Heinrich, *loc. cit. supra*).

*subcyaneus neutralis* (Cresson), changed status. Reduced to subsp. rank (*teste* Heinrich, 1959, Ent. News 70 (8): 212). Transf. from (*Pterocormus* Foerster, Catalog pp. 299-300.) = *Ichneumon* Linnaeus, Sup. I, p. 52 (*teste* Heinrich, *loc. cit. supra*).

*subcyaneus subcyaneus* (Cresson), changed status. Eastern No. Amer. Host: *Hyphantria cunea* (Drury). Reduced to subsp. rank (*teste* Heinrich, 1959, Ent. News 70 (8): 212).

?*terminalis apicalis* (Provancher), changed status. Maine, Que., No. Ont. Removed from syn. and reduced to subsp. rank (*teste* Heinrich, 1962, Pt. V, pp. 605, 619).

*Phygadeuon brevicaudus* Provancher (syn. *teste* Heinrich, *loc. cit. supra*, p. 619).

\*?*terminalis carolinensis* Heinrich. N. C.

*Melanichneumon* (*Vulgichneumon*) *terminalis carolinensis* Heinrich, 1962. Pt. V. Canad. Ent. Sup. 26: 606, 619. ♀.

?*terminalis terminalis* (Cresson), changed status. So. Ont., Del., Md., Ill., Iowa, Mo. Reduced to subsp. rank (*teste* Heinrich, 1962, Pt. V, pp. 606, 619).

Taxonomy: Heinrich, 1962, Pt. V. pp. 605-606, 617-619 (generic placement).

*zebratus* (Cresson). Transit. Zone in Mich., B. C.

Taxonomy: Heinrich, 1962, Pt. V, pp. 605, 616-617 (♂ descr.).

**MELANICHNEUMON** subgenus **BARICHNEUMON** Thompson, Sup. 1, p. 49

Place on p. 287 of Catalog as third subg. of *Melanichneumon* Thomson.

**anator** (Fabricius).

*Ichneumon helvipes* Cresson (syn. *teste* Heinrich, 1959. Ent. News 70 (8): 211; 1962 (Pt. V): 621.

\***excelsior** Heinrich. Maine, Que., Ont.

*Melanichneumon (Barichneumon) excelsior* Heinrich, 1962. Pt. V. Canad. Ent. Sup. 26: 620, 627. ♀.

**libens** (Cresson). Maine, N. C.

Taxonomy: Heinrich, 1962, Pt. V., pp. 620, 626-627 (♀ descr.).

\***sorex** Heinrich. Maine, Que., Ont., Va.

*Melanichneumon (Barichneumon) sorex* Heinrich, 1962. Pt. V. Canad. Ent. Sup. 26: 620, 624. ♂, ♀.

**soror bimacularis** (Dalla Torre), changed status. Maine, Que., Ont. Removed from syn. and reduced to subsp. rank (*teste* Heinrich, 1962, Pt. V, pp. 620, 624).

**soror soror** (Cresson), changed status. Del. Reduced to subsp. rank (*teste* Heinrich, 1962, Pt. V, pp. 620, 623).

*Ichneumon bimacularis* Dalla Torre. A valid subsp. of **soror** (*teste* Heinrich, 1962, Pt. V, p. 624).

\***MELANICHNEUMON** subgenus **RICTICHNEUMON** Heinrich

*Melanichneumon (Rictichneumon)* Heinrich, 1961 (1960). Pt. I. Canad. Ent. Sup. 15 [vol. 92]: 17.

Type: *Ichneumon residuus* Say. By monotypy and orig. design.

Place on p. 287 of Catalog as fourth subgenus of **Melanichneumon** Thomson.

**residuus** (Say).

Taxonomy: Heinrich, 1962, Pt. V, pp. 628-629.

**virginicus** (Cresson). W. Va.

*Ichneumon ornatipes* Cresson. Syn. (*teste* Heinrich, 1959, Ent. News 70 (8): 212).

Taxonomy: Heinrich, 1962, Pt. V, pp. 630-631.

\***Genus STENOBARICHNEUMON** Heinrich

*Stenobarichneumon* Heinrich, 1961 (1960). Pt. I. Canad. Ent. Sup. 15 [vol. 92]: 16.

Type: *Ichneumon citator* Thunberg. By monotypy and orig. design.

Place on p. 287 immediately following **Melanichneumon** Thomson.

\***agitator** Heinrich. Maine, Que., Ont.

*Stenobarichneumon agitator* Heinrich, 1962. Pt. V. Canad. Ent. Sup. 26: 634, 639. ♀, ♂.

\***duplicans** Heinrich. Maine.

*Stenobarichneumon duplicans* Heinrich, 1962. Pt. V. Canad. Ent. Sup. 26: 634, 638. ♂, ♀.

\***pergracilis** Heinrich. Maine, Que., Ont.

*Stenobarichneumon pergracilis* Heinrich, 1962. Pt. V. Canad. Ent. Sup. 26: 634, 635. ♂, ♀.

\***pygmaeops** Heinrich.

*Stenobarichneumon pygmaeops* Heinrich, 1962. Pt. V. Canad. Ent. Sup. 26: 634, 637. ♂, ♀.

**saundersii** (Cresson). Maine, Que. Transf. from **Melanichneumon** Thomson, p. 286 (*teste* Heinrich, 1962, Pt. V, pp. 634, 636).

**Genus CRATICHNEUMON** Thomson, pp. 287-290

Revision: Heinrich, 1961 (1960). Pt. II. Canad. Ent. Sup. 18 [vol. 92]: 98-173.

**alternans** (Provancher).

Taxonomy: Heinrich, 1961 (1960), Pt. II, pp. 102, 153.

\***acronictae** Heinrich. Que., Maine, N. Y., N. C.

**Cratichneumon acronictae** Heinrich, 1961 (1960). Pt. II. Canad. Ent. Sup. 18 [vol. 92]: 101, 104, 125. ♂, ♀.

\***anisotae** Heinrich. Ont., Que., Maine, Conn., Mich. Host: *Anisota rubicunda* (F.).

**Cratichneumon anisotae** Heinrich, 1961 (1960). Pt. II. Canad. Ent. Sup. 18 [vol. 92]: 102, 105, 119. ♂, ♀.

**annulatipes annulatipes** (Provancher), changed status. Ont., Que., Maine, Mass., N. Y., Mich. Reduced to subsp. rank (*teste* Heinrich, 1961 (1960), Pt. II, pp. 103, 107, 145, 146).

\***annulatipes facetops** Heinrich. Mo. (Hannibal).

**Cratichneumon annulatipes facetops** Heinrich, 1961 (1960). Pt. II. Canad. Ent. Sup. 18 [vol. 92]: 107, 147. ♂.

**annulatipes quintilis** (Viereck), changed status. Conn. to N. C. Reduced to subsp. rank (*teste* Heinrich, 1961 (1960), Pt. II, pp. 103, 107, 146).

**annulatus** (Provancher). Maine.

Taxonomy: Heinrich, 1961 (1960), Pt. II, pp. 101, 106, 140 (♀ descr.).

**arizonensis** (Viereck).

Taxonomy: Heinrich, 1961 (1960), Pt. II, p. 116 (under *takomae*).

**ashmeadi** (Schulz). N. H., Que., Colo.

Taxonomy: Heinrich, 1961 (1960), Pt. II, pp. 99, 104, 118 (♀ descr.).

**astutus** (Holmgren). Transf. from *Alphabetic List of Unplaced Species*, p. 408 (*teste* Townes, 1961. Ent. Soc. Wash. Proc. 63 (2) 106).

\***boreoalpinus** Heinrich. Newfoundland, N. H.

**Cratichneumon boreoalpinus** Heinrich, 1961 (1960). Pt. II. Canad. Ent. Sup. 18 [vol. 92]: 102, 168. ♀.

\***boreovagans** Heinrich. Maine, Que.

**Cratichneumon boreovagans** Heinrich, 1962. Pt. VII. Canad. Ent. Sup. 29: 870. ♀.

**brevipennis** (Cresson). Maine, Ont., R. I., Fla. Host: *Protoleucania albilinea* (Hbn.). Transf. from *Ichneumon* (= *Pterocormus* in Cat., p. 297). Sup. 1, p. 51 (*teste* Heinrich, 1959, Ent. News 70 (8): 214).

*Ischnus volens* Cresson (syn. *teste* Heinrich, loc. cit. supra).

**Ichneumon brevipennis** var. **obsoletus** Riley (syn. *teste* Heinrich, Pt. II, p. 170).

**citrinops kincaidi** (Ashmead), changed status. Reduced to subsp. rank (*teste* Heinrich, 1959. Ent. News 70 (8): 213). *C. citrinops citrinops* is European.

**confusus** Ashmead. Transf. to \**Aculichneumon* subg. *Crypteffigies* Heinrich. **duplicatus** (Say).

Taxonomy: Heinrich, 1961 (1960), Pt. II, pp. 100, 106, 149 (♀ descr.).

**ericaceus** Townes. Syn. of **flavipectus** Provancher.

**erythromelas** (MacLachlan). Transf. to *Homotherus* Foerster.

\***erythroscuta** Heinrich. Mass. (Southbridge).

**Cratichneumon erythroscuta** Heinrich, 1961 (1960). Pt. II. Canad. Ent. Sup. 18 [vol. 92]: 101, 142. ♀.

**facetus** (Cresson). Mich.

Taxonomy: Heinrich, 1961 (1960). Pt. II, pp. 103, 106, 159-160 (♀ descr.).

\***ferrugops** Heinrich. Que., Ont., Mich.

**Cratichneumon ferrugops** Heinrich, 1961 (1960). Pt. II. Canad. Ent. Sup. 18 [vol. 92]: 101, 124. ♀.

**flavipectus** (Provancher). Ont., Que. to N. C. Deleted from syn. of **scitulus** (Cresson); a valid sp. (*teste* Heinrich, 1961 (1960), Pt. II, pp. 103, 107, 162).

**Ichneumon pygmaeus** Davis. Preocc.

**Cratichneumon ericaeus** Townes, n. name (syn. *teste* Heinrich, 1961 (1960), Pt. II, p. 162).

\***howdeni** Heinrich. N. C. (Southern Pines).

**Cratichneumon howdeni** Heinrich, 1961 (1960). Pt. II. Canad. Ent. Sup. 18 [vol. 92]: 100, 172. ♀.

\***insulae** Heinrich. R. I., N. J.

**Cratichneumon insulae** Heinrich, 1961 (1960). Pt. II. Canad. Ent. Sup. 18 [vol. 92]: 100, 151. ♀.

**kincaidi** (Ashmead). A subsp. of **citrinops** Wesmael.

**nigritarius acerbus** (Cresson). Que., Labrador, Huds. Zone. Host: *Semiothisa sexmaculata* Pack. *C. nigritarius nigritarius* (Gravenhorst) is Eurasian.

\***paraparatus** Heinrich. N. Y., N. J., Md., N. C., S. C.

**Cratichneumon paraparatus** Heinrich, 1962. Pt. VII. Canad. Ent. Sup. 29: 869. ♀.

**paratus paratus** (Say), changed status. Atlantic Ocean to 100° W in Transit. Zone. Reduced to subsp. rank (*teste* Heinrich, 1961 (1960), Pt. II, pp. 100, 105, 136).

**Ichneumon pusillus** Cresson. Remove from syn. A valid subsp. of **paratus**.

**paratus pusillus** (Cresson), changed status. Del., Va. Reduced to subsp. rank (*teste* Heinrich, 1961 (1960), Pt. II, pp. 101, 105, 137. ♂, ♀).

\***paratus pseudovinnulus** Heinrich. N. C., Fla.

**Cratichneumon paratus pseudovinnulus** Heinrich, 1961 (1960). Pt. II. Canad. Ent. Sup. 18 [vol. 92]: 101, 105, 137. ♂, ♀.

?**pectoralis** (Say). Generic placement doubtful (*teste* Heinrich, 1961 (1960), Pt. II, p. 172).

\***pertenuis** Heinrich. N. Y. (Ithaca).

**Cratichneumon pertenuis** Heinrich, 1961 (1960). Pt. II. Canad. Ent. Sup. 18 [vol. 92]: 102, 169. ♀.

\***piceipes** Heinrich. Maine, Que.

**Cratichneumon piceipes** Heinrich, 1961 (1960). Pt. II. Canad. Ent. Sup. 18 [vol. 92]: 101, 106, 130. ♂, ♀.

**pilosulus** (Provancher).

Taxonomy: Heinrich, 1961 (1960), Pt. II, pp. 99, 104, 110 (♂ descr.).

**popofensis** Ashmead. A syn. of **yakutatensis** Ashmead.

**promptus** (Cresson).

Taxonomy: Heinrich, 1961 (1960), Pt. II, pp. 100, 104, 114-115.

**proximus** (Cresson).

Taxonomy: Heinrich, 1961 (1960), Pt. II, pp. 99, 104: 112-114.

\***pseudanisotae** Heinrich. N. Y., N. J., Md.

**Cratichneumon pseudanisotae** Heinrich, 1961 (1960). Pt. II. Canad. Ent. Sup. 18 [vol. 92]: 102, 133. ♀.

**pteridis** Townes. Ont., Man. Hosts: *Protoboarmia porcelaria* Gn., *Semiothisa* sp.

Taxonomy: Heinrich, 1961 (1960), Pt. II, pp. 102, 107, 160-162 (♂ descr.).

\***puncticoxa** Heinrich. Que., Maine, Mass., N. Y.

**Cratichneumon puncticoxa** Heinrich, 1961 (1960). Pt. II. Canad. Ent. Sup. 18 [vol. 92]: 101, 106, 133. ♂, ♀.

*quintilis* (Viereck). A subsp. of *annulatipes* (Provancher).

*Ichneumon nanus* Cresson. Preocc.

*Amblyteles nanodes* Cushman. N. name. Syn. of *C. scitulus* (Cresson).

\**remanens* Heinrich. Maine, Ont., N. Y., Md., N. C.

*Cratichneumon remanens* Heinrich, 1961 (1960). Pt. II. Canad. Ent. Sup. 18 [vol. 92]: 107, 139, 157. ♂.

\**ritus* Heinrich. Maine, Ont., N. C., Ind., Mich., Iowa.

*Cratichneumon ritus* Heinrich, 1961 (1960). Pt. II. Canad. Ent. Sup. 18 [vol. 92]: 100, 105, 143. ♂, ♀.

\**rubricoides* Heinrich. Que., N. Y., N. C., Mich.

*Cratichneumon rubricoides* Heinrich, 1961 (1960). Pt. II. Canad. Ent. Sup. 18 [vol. 92]: 103, 106, 165. ♂, ♀.

\**rubricops* Heinrich. Que., Maine, Ont., N. Y.

*Cratichneumon rubricops* Heinrich, 1961 (1960). Pt. II. Canad. Ent. Sup. 18 [vol. 92]: 103, 107, 167. ♂, ♀.

*rubricus* (Provancher). P. E. I., Maine, Mich.

Taxonomy: Heinrich, 1961 (1960), Pt. II, pp. 103, 107, 164-165 (♂ descr.).

*scitulus* (Cresson).

*Ichneumon nanus* Cresson (syn. *teste* Heinrich, 1961 (1960), Pt. II., p. 154).

?*Cryptus flavipectus* Provancher. Remove from syn.; a valid sp.

*Amblyteles nanodes* Cushman (syn. *teste* Heinrich, 1961 (1960), Pt. II, p. 154).

*signatipes* (Cresson). Syn. of *w-album w-album* (Cresson) p. 289.

*Ichneumon lobatus* Provancher. Remove from syn.; a valid subsp. of *w-album* (Cresson).

*suadus* (Cresson). Maine, Ont.

\**subfilatus* Heinrich. Que. to N. C. west to Mich.

*Cratichneumon subfilatus* Heinrich, 1961 (1960). Pt. II. Canad. Ent. Sup. 18 [vol. 92]: 101, 106, 131. ♂, ♀.

*sublatus* (Cresson). Maine, N. H., Que., Ont. Host: *Heterocampa biundata* (Wlkr.).

\**takomae* Heinrich. Md. (Takoma Park).

*Cratichneumon takomae* Heinrich, 1961 (1960). Pt. II. Canad. Ent. Sup. 18 [vol. 92]: 104, 116. ♂.

\**tyloidifer* Heinrich. Maine, Ont., N. Y., Pa., Md., N. C., Mich.

*Cratichneumon tyloidifer* Heinrich, 1961 (1960). Pt. II. Canad. Ent. Sup. 18 [vol. 92]: 104, 115. ♂.

*unifasciatorius unifasciatorius* (Say), changed status. Eastern North Amer. Reduced to subsp. rank (*teste* Heinrich, 1961 (1960), Pt. II, p. 109).

*Ichneumon vancouveriensis* Provancher. A valid subsp. of *unifasciatorius* (Say).

*unifasciatorius vancouveriensis* (Provancher). B. C. Host: Arctiidae, ?*Hali-sidota argentata* (Pack.). Removed from syn. and reduced to subsp. rank (*teste* Heinrich, 1961 (1960), Pt. II, p. 109).

\**vaccinii* Heinrich. Ont., Que.

*Cratichneumon vaccinii* Heinrich, 1961 (1960). Pt. II. Canad. Ent. Sup. 18 [vol. 92]: 105, 141. ♂.

*variegatus* (Provancher). Atlantic to 100° W in Transit. and U. Austr. Zones. Hosts: *Anisota rubicunda* (F.); *A. sp.* on beech; *Hetero-campa guttivitta* (Wlkr.). A valid species (*teste* Heinrich, 1959, Ent. News 70 (8): 214).

**vescus** (Provancher). B. C. Host: *Protobarmia porcelaria* Gn.

Taxonomy: Heinrich, 1961 (1960), Pt. II, pp. 102, 105, 152-153 (♀ descr.).

**vinnulus** (Cresson). Que., Ont., Maine to N. C. and Ky.

\**Cratichneumon gracilior* Heinrich, 1961 (1960). Pt. II. Canad. Ent. Sup. 18 [vol. 92]: 100, 105, 147. ? ♂, ♀. (Syn. (♀ only) *teste* Heinrich, 1962, Pt. VII, p. 868.)

\***vockerothi** Heinrich. N. H. (Mt. Washington).

*Cratichneumon vockerothi* Heinrich, 1961 (1960). Pt. II. Canad. Ent. Sup. 18 [vol. 92]: 102, 158. ♀.

**volens** (Cresson). Syn. of *C. brevipennis* (Cresson).

**w-album lobatus** (Provancher), changed status. Que., Ont., New England, Mich. Transf. from syn. of *signatipes* Cresson and reduced to subsp. rank (*teste* Heinrich, 1961 (1960), Pt. II, pp. 101, 106, 129).

**w-album w-album** (Cresson), changed status. U. Austr. Zone north to Southern N. England and Mich. Reduced to subsp. rank (*teste* Heinrich, 1961 (1960), Pt. II, pp. 101, 106, 129).

*Cratichneumon signatipes* (Cresson) (syn. *teste* Heinrich, 1961 (1960), Pt. II, pp. 127, 129).

*Ischnus variegatus* Provancher. Remove from syn.; a valid sp.

*Ichneumon oryxicornis* Viereck (syn. *teste* Heinrich, 1961 (1960), Pt. II, p. 129).

*Amblyteles duplicatiformis* Viereck (syn. *teste* Heinrich, 1961 (1960), Pt. II, p. 129).

**yakutatensis** Ashmead.

*Cratichneumon popofensis* Ashmead. Syn. (*teste* Heinrich, 1959, Ent. News 70 (8): 214).

#### \*Genus HOMOTHERUS Foerster

*Homotherus* Foerster, 1868. Naturh. Ver. Rheinlande Verh. 25: 185.

Type: *Ichneumon locutor* Thunberg. Incl. and desig. by Heinrich, 1961 (1960).

Place in Catalog after *Cratichneumon* Thomson, p. 290.

**erythromelas** (MacLachlan). Transf. from *Cratichneumon* Thomson, p. 288 (*teste* Heinrich, 1962, Pt. VII, p. 871).

\***porcelariae** Heinrich. Labrador, N. B., Maine, Ont., Man. Hosts: *Protobarmia porcelaria* Gn., *Eufidonia notatoria* Wlkr., *Semiothisa* sp.

*Homotherus porcelariae* Heinrich, 1961 (1960). Pt. II. Canad. Ent. Sup. 18 [vol. 92]: 102, 105, 177. ♂, ♀.

\***semiaoplus** Heinrich. Maine, Que., W. Va.

*Homotherus semiaoplus* Heinrich, 1961 (1960). Pt. II. Canad. Ent. Sup. 18 [vol. 92]: 103, 106, 173. ♂, ♀.

\***townesi** Heinrich. Maine, Que., Ont., N. Y., N. C., Mich.

*Homotherus townesi* Heinrich, 1961 (1960). Pt. II. Canad. Ent. Sup. 18 [vol. 92]: 102, 106, 175. ♂, ♀.

#### \*Genus ACULICHNEUMON Heinrich

ACULICHNEUMON subgenus ACULICHNEUMON Heinrich

*Cratichneumon* subg. *Aculichneumon* Heinrich, 1938. Acad. Malgache Mem. f. 25, p. 98.

Type: *Cratichneumon (Aculichneumon) longicauda* Heinrich. By monotypy and orig. desig.

This subgenus is not represented in the Nearctic Region.

\*ACULICHNEUMON subgenus CRYPTEFFIGIES Heinrich

*Aculichneumon* subg. *Crypteffigies* Heinrich, 1961 (1960). Pt. II. Canad.

Ent. Sup. 15 [vol. 92]: 17.

Type: *Ichneumon* (!) [*Cratichneumon*] *confusus* Ashmead.  
By monotypy and orig. desig.

Place in Catalog on p. 290 after *Homotherus* Foerster.

**confusus confusus** (Ashmead), changed status. Alaska. Transf. from *Cratichneumon* Thomson and reduced to subsp. rank (*teste* Heinrich, 1961 (1960), Pt. I, p. 17 (as *Ichneumon confusus*); Pt. II, p. 179).

\***confusus megalurus** Heinrich. Ont.

*Aculichneumon* (*Crypteffigies*) *confusus megalurus* Heinrich, 1961 (1960). Pt. II. Canad. Ent. Sup. 18 [vol. 92]: 180. ♀.

\*Genus **EUPALAMUS** Wesmael

*Eupalamus* Wesmael, 1844. Acad. Sci. Bruxelles Nouv. Mem. 18: 13, 14.

Type: *Eupalamus oscillator* Wesmael. Desig. by Ashmead, 1900.

Place in Ichneumonini, p. 290, after *Cratichneumon*.

\***andersoni** Heinrich. B. C. (Stuarts Lake).

*Eupalamus andersoni* Heinrich, 1961. Pt. IV. Canad. Ent. Sup. 23: 385.  
♀.

\***melacneme** Heinrich. Que., Ont.

*Eupalamus melacneme* Heinrich, 1961. Pt. IV. Canad. Ent. Sup. 23: 386. ♂, ♀.

\*Genus **PATROCLOIDES** Heinrich

*Patrocloides* Heinrich, 1961 (1960). Pt. I. Canad. Ent. Sup. 15 [vol. 92]: 16.

Type: *Amblyteles perluctuosus* Provancher. By monotypy and orig. desig.

Place in Catalog on p. 290 before *Aoplus* Tischbein.

**montanus montanus** (Cresson). Also no. Transit. Zone. Host: *Syngrapha* sp. Transf. from *Patroclus* Cresson, p. 291 (*teste* Heinrich, 1962, Pt. V, p. 517).

\***montanus occidentalis** Heinrich. Pacific to Cont. Divide in Canad. and Transit. Zones.

*Patrocloides montanus occidentalis* Heinrich, 1962. Pt. V. Canad. Ent. Sup. 26: 517. ♀.

*Patroclus montanus* n. subsp. (of Catalog, p. 291).

**perluctuosus** (Provancher). B. C. Hosts: *Syngrapha epigaea* (Grt.), *S. selecta* (Wlk.). Transf. from *Patroclus* Cresson. p. 291 (*teste* Heinrich, 1962, Pt. V, pp. 514, 516).

**walleyi** (Heinrich). Que. Transf. from *Patroclus* Cresson, Sup. 1, p. 50 (*teste* Heinrich, 1962, Pt. V, p. 513, 515).

Genus **AOPLUS** Tischbein, pp. 290–291, Sup. 1, p. 49

**cestus** (Cresson). Host: *Melanolophia imitata* Wlkr.

*Aoplus opacitas* (Davis) (syn. *teste* Heinrich, 1959, Ent. News 70 (8): 211).

**confirmatus** (Cresson).

Taxonomy: Heinrich, 1962, Pt. V, pp. 535, 536, 537–539 (♂ descr.).

**leucopsis** (Ashmead). Transf. to *Platylabops* Heinrich (*teste* Heinrich, 1962, Pt. V, pp. 641, 645).

\***limbatae** Heinrich. B. C. Host: *Nematocampa limbata* Haw.

*Aoplus limbatae* Heinrich, 1962. Pt. V. Canad. Ent. Sup. 26: 536, 542.  
♀, ♂.

\***melanisticus** Heinrich. Ont., Yukon, Canad. Zone.

*Aoplus melanisticus* Heinrich, 1962. Pt. V. Canad. Ent. Sup. 26: 535, 547. ♀.

- \***moilietti** Heinrich. Alta. Host: *Enypia moilietti* Blkmre.  
*Aoplus moilietti* Heinrich, 1962. Pt. V. Canad. Ent. Sup. 62: 536, 544. ♀.
- \***monotonus** Heinrich. B. C., Wash., Oreg., Colo., Alta.  
*Aoplus monotonus* Heinrich, 1962. Pt. V. Canad. Ent. Sup. 26: 536, 537, 548. ♂, ♀.
- \***ochropis coloradensis** Heinrich. Colo., ?Que.  
*Aoplus ochropis coloradensis* Heinrich, 1962. Pt. V. Canad. Ent. Sup. 26: 534, 536, 556. ♂, ♀.
- ochropis ochropis** (Gmelin), changed status. Reduced to subsp. rank (*teste* Heinrich, 1962, Pt. V, pp. 534, 536, 556).
- \***permutabilis leucorbis** Heinrich. Md., Mo.  
*Aoplus permutabilis leucorbis* Heinrich, 1962. Pt. V. Canad. Ent. Sup. 26: 535, 542. ♀.
- \***permutabilis permutabilis** Heinrich. Maine, Que., Mass., Ont., Ind.  
*Aoplus permutabilis permutabilis* Heinrich, 1962. Pt. V. Canad. Ent. Sup. 26: 535, 536, 541. ♂, ♀.
- \***pseudovelox** Heinrich. Maine, Que., N. H., Ont., N. Y., Pa., Mich. Alta.  
*Aoplus pseudovelox* Heinrich, 1962. Pt. V. Canad. Ent. Sup. 26: 535, 537, 556. ♂, ♀.
- \***rarior** Heinrich. Que., Ont.  
*Aoplus rarior* Heinrich, 1962. Pt. V. Canad. Ent. Sup. 26: 535, 546. ♀.
- ruficeps sitkensis** (Ashmead). Not subsp. of *vagans* Provancher (*teste* Heinrich, 1959 (Oct.). Ent. News 70 (8); 211. *A. ruficeps ruficeps* is European.  
*?Ichneumon simulator* Ashmead.  
 Taxonomy: Heinrich, 1962, Pt. V, pp. 535, 536, 554.
- ruficeps vagans** (Provancher). Maine, cooler parts of Transit. Zone. Host: *Macaria* sp. As here, not as *vagans vagans* Provancher (*teste* Heinrich, 1959 (Oct.). Ent. News 70 (8): 211).  
 Taxonomy: Heinrich, 1959 (Dec.), Canad. Ent. 91 (12): 807; 1962, Pt. V, pp. 535, 536, 553-554 (♀ descr.).
- \***thujarum** Heinrich. Que., Ont.  
*Aoplus thujarum* Heinrich, 1962. Pt. V. Canad. Ent. Sup. 26: 536, 543. ♀.
- \***torpidus** (Wesmael). Maine, Que., Ont., Alta.; Europe.  
*Ichneumon torpidus* Wesmael, 1857. Acad. Roy des Sci. Lettres, Beaux-arts Belgique Bul. (2) 2: 385. ♀.
- vagans sitkensis** (Ashmead). Subsp. of *ruficeps* (Gravenhorst).
- vagans vagans** (Provancher). Subsp. of *ruficeps* (Gravenhorst).
- velox occidentalis** (Harrington), changed status. B. C. Host: *Lambdina fiscellaria lugubrosa* (Hlst.). Reduced to subsp. rank (*teste* Heinrich, 1962, Pt. V, p. 551).
- velox velox** (Cresson), changed status. Host: *Ellopiia athasaria* (Guen.). Reduced to subsp. rank (*teste* Heinrich, 1962, Pt. V, p. 551).  
*Ichneumon occidentalis* Harrington. Removed from syn. Valid subsp. of *velox*.

Genus **STENICHNEUMON** Thomson, Sup. 1, pp. 49-50

(Syn. of *Aoplus* Tischbein in Catalog, p. 290.)

Change type citation to read:

Type: (*Ichneumon pistorius* Gravenhorst) = *militarius* (Thunberg).

\***Myermo** Cameron, 1901. Ann. Mag. Nat. Hist. (Ser. 7) 7: 523. (Syn. *teste* Townes, Townes, and Gupta, 1961: 345.)

Type: (*Myermo rufipes* Cameron) = *appropinquans* (Cameron). By monotypy.

\***Chiaglas** Cameron, 1902. Ann. and Mag. Nat. Hist. (Ser. 7) 9: 152. (Syn. *teste* Townes, Townes, and Gupta, 1961: 345.)



Type: *Chiaglas nigripes* Cameron. By monotypy.

\**Bolbomyschus* Tosquinet, 1903. Soc. Ent. Belg. Mém. 10: 342. (Syn. *teste* Townes, Townes, and Gupta, 1961: 345.)

Type: (*Bolbomyschus albipictus* Tosquinet) = *nigripes* (Cameron). By monotypy.

\**Stenichneumonoides* Uchida, 1930. Insecta Matsumurana 9: 95. (Syn. *teste* Townes, Townes, and Gupta, 1961: 345).

Type: *Ichneumon posticalis* Matsumura. Orig. desig.

Taxonomy and Biology: Heinrich, 1962 (Pt. V): 522-524.

*culpator cineticornis* (Cresson). Transcont. in Canad. Zone. *S. culpator culpator* (Schränk) is Eurasian.

\**Ichneumon mathewi* Cameron, 1907. Entomologist 40: 277. ♂. (Syn. *teste* Townes, 1961. Ent. Soc. Wash. Proc. 63 (2): 109.)

\**militarius leucopus* Heinrich. Transcont. in Canad. Zone, N. B., Maine, Que. in North Transit. Zone. Host: *Plusia* sp. *S. militarius militarius* (Thunberg) is European.

*Stenichneumon militarius leucopus* Heinrich, 1962. Pt. V. Canad. Ent. Sup. 26: 523, 524, 525. ♂, ♀.

*pallidipennis* (Viereck), changed status. Sask., N. W. T., B. C. Elevated to specific rank (*teste* Heinrich, 1962, Pt. V, pp. 523, 524, 531).

*salvus bioculatus* (Cresson). N. B., P. E. I., Que., Man., Alta., B. C. Taxonomy: Heinrich, 1962, Pt. V, pp. 528, 531 (subsp. status doubtful).

*salvus pallidipennis* (Viereck). A valid sp., not a subsp.

*salvus salvus* (Cresson).

Taxonomy: Heinrich, 1962, Pt. V, pp. 528-530 (specific status).

#### Genus *Patroclus* Cresson, p. 291

Remove from Catalog. Type-species is Neotropical. Species listed under this genus are transferred to \**Patrocloides* Heinrich.

*montanus* n. subsp. Transf. to *Patrocloides* Heinrich as *montanus occidentalis* Heinrich (*teste* Heinrich, 1962, Pt. V, p. 517).

*montanus montanus* (Cresson). Transf. to *Patrocloides* Heinrich.

*perluctuosus* (Provancher). Transf. to *Patrocloides* Heinrich.

*walleyi* (Heinrich). Transf. to *Patrocloides* Heinrich.

#### Genus *ANISOPYGUS* Kriechbaumer, p. 291

\**americanus* Heinrich. Newfoundland, N. S., Maine, Mass., Ont., Wis., B. C. Host: *Ichthyura apicalis* Wlkr.

*Anisopygus americanus* Heinrich, 1961. Pt. IV. Canad. Ent. Sup. 23: 379. ♂, ♀.

\**pseudonymus nearcticus* Heinrich. Colo., Alta., B. C. Host: Notodontid pupa. *A. pseudonymus pseudonymus* (Wesmael) is European.

*Anisopygus pseudonymus nearcticus* Heinrich, 1961. Pt. IV. Canad. Ent. Sup. 23: 378. ♂, ♀.

#### Genus *EXEPHANES* Wesmael, 291

\**californicus* Heinrich. Calif., Ariz., Utah, Colo.

*Exephanes californicus* Heinrich, 1961. Pt. IV. Canad. Ent. Sup. 23: 476, 480. ♂, ♀.

*subfulvus* (Cresson). Sask., ?Que.

\**terminalis immaculatus* Heinrich. Colo., ? N. W. T.

*Exephanes terminalis immaculatus* Heinrich, 1961. Pt. IV. Canad. Ent. Sup. 23: 476, 479. ♂, ♀.

*terminalis terminalis* (Provancher), changed status. Transit. Zone, Maine, Que., Ont. Reduced to subsp. rank (*teste* Heinrich, 1961. Pt. IV, p. 479).

*Spilichneumon pomilius* Provancher (syn. *teste* Heinrich, 1959, *Canad. Ent.* 91 (12): 806).

**Genus ECTOPIMORPHA Viereck, pp. 291-292**

\***boops** Heinrich. Calif. (Crescent City).

*Ectopimorpha boops* Heinrich, 1961. *Pt. IV. Canad. Ent. Sup.* 23: 484, 494. ♂.

\***californica** Heinrich. Calif.

*Ectopimorpha californica* Heinrich, 1961. *Pt. IV. Canad. Ent. Sup.* 23: 484, 490. ♂, ♀.

\***hiulcops** Heinrich. B. C., Sask.

*Ectopimorpha hiulcops* Heinrich, 1961. *Pt. IV. Canad. Ent. Sup.* 23: 484, 486. ♀.

**indemnis** (Cresson). Sask.

\***limerodops** Heinrich. Calif. (Crane Flat).

*Ectopimorpha limerodops* Heinrich, 1961. *Pt. IV. Canad. Ent. Sup.* 23: 483, 487. ♀.

**luperinae** Cushman.

Taxonomy: Heinrich, 1961, *Pt. IV*, pp. 488-490 (disting. characters).

\***utahensis** Heinrich. Utah (10 mi. north of Orderville).

*Ectopimorpha utahensis* Heinrich, 1961. *Pt. IV. Canad. Ent. Sup.* 23: 484, 493. ♂.

**\*Genus PSEUDOAMBLYTELES Heinrich**

*Pseudoamblyteles* Heinrich, 1926. *Deut. Ent. Ztschr.* 1926 (3): 255.

Type: *Amblyteles homocerus* Wesmael. By monotypy.

\**Ctenamblyteles* Heinrich, 1928. *Deut. Ent. Ztschr.* 1928 (2): 141. N. name.

Place immediately after *Ectopimorpha* Viereck in Catalog, p. 292.

\***homocerus** (Wesmael). Transcont. in Huds., *Canad. Zones*; Europe (Eurasia); Algeria; Tunisia.

*Amblyteles homocerus* Wesmael, 1854. *Acad. Roy. des Sci. Lettres, Beaux-arts Belgique. Bul. Annexe*: 121 ♂, ♀.

**Genus CHASMIAS Ashmead, p. 292**

Taxonomy: Heinrich, 1961, *Pt. IV*, pp. 373-375.

**saucius** (Cresson). Transf. to *Ichneumon* Linnaeus.

**scelestus** (Cresson). Host: *Papaipema cataphracta* (Grote).

Taxonomy: Heinrich, 1961, *Pt. IV*, pp. 374-375 (♂ descr.).

**torvinus** (Cresson). Syn. of **saucius** Cresson (transf. to *Ichneumon*, p. 301).

**\*Genus NEAMBLYMORPHA Heinrich**

*Neamblymorpha* Heinrich, 1960. *Pt. I. Canad. Ent. Sup.* 15 [vol. 92]: 19.

Type: *Ichneumon milvus* Cresson. By monotypy and orig. desig.

Place on page 292 of Catalog after *Chasmius* Ashmead and before *Eutanyacra* Cameron.

**milva** (Cresson). Transf. from *Pseudamblyteles* Ashmead, p. 293 (*teste* Heinrich, 1961, *Pt. IV*, pp. 376-377; ♂ descr.).

**Genus EUTANYACRA Cameron, Sup. 1, p. 50**

**chillcotti** Heinrich. N. W. T., Baffin Is., Que.

**consignata** (Cresson). Ont. Transf. from *Amblyteles* Wesmael, p. 294 (*teste* Heinrich, 1961, *Pt. IV*, pp. 424, 425, 430; ♀ descr.).

- \*hiemans** Heinrich. Maine, Que., Ont., Pa.  
*Eutanyacra hiemans* Heinrich, 1961. Pt. IV. Canad. Ent. Sup. 23: 424, 436. ♀.
- \*improvisa columbiana** Heinrich. B. C.  
*Eutanyacra improvisa columbiana* Heinrich, 1961. Pt. IV. Canad. Ent. Sup. 23: 424, 428. ♂, ♀.
- improvisa improvisa** (Cresson), changed status. Maine, Ont., Sask. Hosts: ? *Anomogyna perguivitata* Morr. ("ex-*A. pergui*"); *Ceramica picta* Harr. Reduced to subsp. rank (*teste* Heinrich, 1961, Pt. IV, pp. 424, 428).
- \*miraculosa** Heinrich. Maine (Dryden).  
*Eutanyacra miraculosa* Heinrich, 1961. Pt. IV. Canad. Ent. Sup. 23: 424, 434. ♀.
- munifica** (Cresson). N. S., N. B., N. H., Sask. Transf. from *Pseudamblyteles* Ashmead, p. 293 (*teste* Heinrich, 1959, Ent. News 70 (8): 210). Taxonomy: Heinrich, 1961, Pt. IV, pp. 423, 424, 425, 426 444-446 (♀ tentative descr.).
- perannulata** (Hopper). Transf. from *Amblyteles* Wesmael, p. 295 (*teste* Heinrich, 1959, Ent. News 70 (8): 210). Taxonomy: Heinrich, 1961, Pt. IV, pp. 424, 425, 429-430 (♂ descr.).
- \*pynopos** Heinrich. Ont., D. C., Ohio, Iowa, Ark.  
*Eutanyacra pynopos* Heinrich 1961. Pt. IV. Canad. Ent. Sup. 23: 424, 425, 435. ♂, ♀.
- saguenayensis** (Provancher). Maine, Mich. Transf. from *Pseudamblyteles* Ashmead, p. 293 (*teste* Heinrich, 1961, Pt. IV, pp. 425, 426, 446-448; ♀ descr.).
- \*solitaria** Heinrich. Que., Ont., N. Y.  
*Eutanyacra solitaria* Heinrich, 1961. Pt. IV. Canad. Ent. Sup. 23: 425, 442. ♂, ♀.
- suturalis** (Say). Labrador, N. S., Que., Ont., Man., Sask., N. W. T., B. C. Host: *Actebia fennica* Tausch. Transf. from *Pseudamblyteles* Ashmead, p. 294 (*teste* Heinrich, 1959, Ent. News 70 (8): 210).  
*Pseudamblyteles grotei* (Cresson) (syn. *teste* Heinrich, *loc. cit. supra*).
- \*trivittata** Heinrich. Que.  
*Eutanyacra trivittata* Heinrich, 1961. Pt. IV. Canad. Ent. Sup. 23: 424, 426, 448. ♂, ♀.
- \*valdenigra** Heinrich. Que. (Payne Bay).  
*Eutanyacra valdenigra* Heinrich, 1958. Canad. Ent. 90 (12): 740. ♂.
- \*validiceps** Heinrich. Maine, Que., Ont.  
*Eutanyacra validiceps* Heinrich, 1961. Pt. IV. Canad. Ent. Sup. 23: 425, 426, 443. ♂, ♀.
- \*vilissima rubricosa** Heinrich. Md., W. Va.  
*Eutanyacra vilissima rubricosa* Heinrich, 1961. Pt. IV. Canad. Ent. Sup. 23: 425, 441. ♂, ♀.
- \*vilissima vilissmia** Heinrich. Maine, Que., Ont., Mass., N. Y., Mich.  
*Eutanyacra vilissima vilissmia* Heinrich, 1961. Pt. IV. Canad. Ent. Sup. 23: 424, 426, 440. ♂, ♀.

Genus PSEUDAMBLYTELES Ashmead, pp. 292-294

Taxonomy: Heinrich, 1961, Pt. IV, pp. 397-401.

- \*amoenipes** Heinrich. Maine, Que.  
*Pseudamblyteles amoenipes* Heinrich, 1961. Pt. IV. Canad. Ent. Sup. 23: 400, 413. ♀.
- animosus** var. **rubellus** (Cresson). A valid species.
- belfragei** (Cresson). Transf. to *Melanichneumon* Thomson, *s. str.*

**bizonatus** (Cresson). Colo.

Taxonomy: Heinrich, 1961, Pt. IV, pp. 400, 401, 406 (possible subsp.).

\***carbo** Heinrich. Maine, Que., Ont.

*Pseudamblyteles carbo* Heinrich, 1961. Pt. IV. Canad. Ent. Sup. 23: 399, 401, 419. ♂, ♀.

**citrinus** (Provancher). Transf. to **Spilichneumon** Thomson.

\***distinctipes** Heinrich. Maine, Que., Ont., N. Y., Md., Ohio, N. C.

*Pseudamblyteles distinctipes* Heinrich, 1961. Pt. IV. Canad. Ent. Sup. 23: 400, 409. ♀.

\***effigialis** Heinrich. N. B., Maine, Que., Ont.

*Pseudamblyteles effigialis* Heinrich, 1961. Pt. IV. Canad. Ent. Sup. 23: 400, 401, 410. ♂ ♀.

**flebilis** (Cresson). Maine, N. H., Que., Ont.

Taxonomy: Heinrich, 1961, Pt. IV, pp. 400, 401, 411 (? ♂ descr.).

**grotei** (Cresson). Transf. to **Eutanyacra** Cameron as syn. of **E. suturalis** (Say).

\***interdistinctus** Heinrich. Maine, N. H., Que., Ont.

*Pseudamblyteles interdistinctus* Heinrich, 1961. Pt. II. Canad. Ent. Sup. 23: 400, 410. ♀.

**koebelei** (Swezey). Transf. to **Spilichneumon** Thomson as syn. of **superbus** (Provancher).

**lewisii** (Cresson). Transf. to **Ichneumon** Linnaeus.

**micramoenus** Heinrich. Maine.

*Pseudamblyteles micramoenus* Heinrich, 1961. Pt. IV. Canad. Ent. Sup. 23: 399, 400, 420. ♀.

**milvus** (Cresson). Transf. to \***Neamblymorpha** Heinrich.

**mormonus** (Cresson). Transf. with its syn. to \***Thyrateles** Perkins.

**munificus** (Cresson). Transf. to **Eutanyacra** Cameron.

\***nigrotergops** Heinrich. Que., Ont.

*Pseudamblyteles nigrotergops* Heinrich, 1961. Pt. IV. Canad. Ent. Sup. 23: 399, 417. ♀.

**ormenus** (Cresson). Transf. from **Amblyteles** Wesmael, p. 295 (*teste* Heinrich, 1961, Pt. IV, pp. 399, 401, 414).

\***populorum** Heinrich. Sask., Alta. Host: *Brachylomia populi* Strecker.

*Pseudamblyteles populorum* Heinrich, 1961. Pt. IV. Canad. Ent. Sup. 23: 399, 401, 418. ♂, ♀.

**provancheri** (Cushman). Maine, Ont. Transf. from **Amblyteles** Wesmael, p. 295 (*teste* Heinrich, 1961, Pt. IV, pp. 400, 401, 404-406; ♂ descr.).

**robustus** (Cresson).

Taxonomy: Heinrich 1961, Pt. IV, pp. 400, 401 (♂ descr.).

**rubellus** (Cresson). Raised to specific rank (*teste* Heinrich, 1959, Ent. News 70 (8): 211).

**saguenayensis** (Provancher). Transf. to **Eutanyacra** Cameron.

**suturalis** (Say). Transf. to **Eutanyacra** Cameron.

\***walleyi** Heinrich. Ont. (Smoky Falls).

*Pseudamblyteles walleyi* Heinrich, 1961. Pt. IV. Canad. Ent. Sup. 23: 399, 416. ♀.

\***zebraticolor** Heinrich. Que., Ont.

*Pseudamblyteles zebraticolor* Heinrich, 1962. Pt. VII. Canad. Ent. Sup. 29: 882. ♂.

Genus **LIMERODOPS** Heinrich, Sup. 1, p. 50

Change type citation to read: Type: (*Amblyteles elongatus* Brischke)

= "*subsericans* var. *elongatus*" (Brischke) (*teste* Heinrich, 1961, Pt. IV, pp. 380-382).

*belangeri* (Cresson), changed status. Raised to sp. rank (*teste* Heinrich, 1961, Pt. IV, p. 382).

\**mariannae* Heinrich. N. S., Maine, Mass., Ont., Transit. Zone.

*Limerodops mariannae* Heinrich, 1961. Pt. IV. Canad. Ent. Sup. 23: 383.  
♂, ♀.

Genus **AMBLYTELES** Wesmael, pp. 294-295

Delete from Catalog; contains no Nearctic species (*teste* Heinrich, 1961, Pt. IV, p. 398).

*aleatorius* (Cresson). Transf. to **Spilichneumon** Thomson, p. 295, as syn. of *subrufus* (Cresson).

*belangeri* Cresson. Transf. in Sup. 1 to **Limerodops** Heinrich.

*bronteus* (Cresson). Transf. to **Spilichneumon** Thomson, p. 295.

*consignatus* (Cresson). Transf. to **Eutanyacra** Cameron.

*crudosus* (Cresson). Transf. tentatively to **Spilichneumon** Thomson, p. 295.

*fraternus* Cresson. Transf. to **Spilichneumon** Thomson, p. 295, as syn. of *nubivagus* (Cresson).

*improvisus* (Cresson). Transf. to **Eutanyacra** Cameron.

*inconstans* (Cresson). Transf. to **Spilichneumon** Thomson, p. 295, as syn. of *subrufus* (Cresson).

*juxtus* (Cresson). Transf. to **Spilichneumon** Thomson, p. 295.

*kodiakensis* (Ashmead). Transf. to **Spilichneumon** Thomson, p. 295.

*nubivagus* (Cresson). Transf. to **Spilichneumon** Thomson, p. 295.

*ormenus* (Cresson). Transf. to **Pseudamblyteles** Ashmead, p. 293.

*perannulatus* Hopper. Transf. to **Eutanyacra** Cameron.

*provancheri* Cushman. Transf. to **Pseudamblyteles** Ashmead, p. 293.

*rufizonatus* (Cresson). Transf. to **Ctenichneumon** Thomson as syn. of *syphax* (Cresson).

*Amblyteles balteatus* Hopper. Transf. to **Ichneumon** Linnaeus as syn. of *volesus* Cresson.

*subrufus* (Cresson). Transf. to **Spilichneumon**, Thomson, p. 295.

*superbus* Provancher. Transf. to **Spilichneumon** Thomson, p. 295.

*torontosus* Davis. Transf. to **Thyrateles** Perkins as syn. of *procax* (Cresson).

Genus **SPILICHNEUMON** Thomson, p. 295

*borealis* (Provancher). Que., Ont. A valid species (*teste* Heinrich, 1961 (1960), Pt. II, p. 185).

Taxonomy: Heinrich, 1961 (1960), Pt. II, pp. 185-186 (♂ descr.).

*bronteus* (Cresson). Que., Ont., B. C. Transf. from **Amblyteles** Wesmael, p. 294 (*teste* Heinrich, 1961 (1960) Pt. II, pp. 182, 183, 186).

Taxonomy: Heinrich, 1961 (1960), Pt. II, pp. 187-188 (♀ descr.).

*citrinus* (Provancher). Transf. from **Pseudamblyteles** Ashmead, p. 292 (*teste* Heinrich, 1961 (1960), Pt. II, pp. 183, 189).

?*crudosus* (Cresson). Transf. from **Amblyteles**, p. 294 (no spms. seen; descr. not definitive).

*juxtus* (Cresson). Transf. from **Amblyteles**, p. 294 (*teste* Heinrich, 1959, Ent. News 70 (8): 209).

*kodiakensis* (Ashmead), n. comb. Transf. from **Amblyteles**, p. 294 (*teste* exam. of ♂ type spm.).

**nubivagus** (Cresson). Labrador. Transf. from **Amblyteles** Wesmael, p. 294 (*teste* Heinrich, 1959, Ent. News 70: 209).

**Amblyteles fraternus** Cresson (syn. *teste* Heinrich, *loc. cit. supra*).

\***physcoteloides** Heinrich. Que., Maine, Mass.

**Spilichneumon physcoteloides** Heinrich, 1961 (1960). Pt. II. Canad. Ent. Sup. 18 [vol. 92]: 182, 183, 191. ♂ ♀.

**pomilius** (Provancher). Transf. to **Exephanes** Wesmael as syn. of **terminalis terminalis** (Provancher), p. 291.

**Amblyteles borealis** Provancher. Remove from syn.; a valid species.

**subrufus** (Cresson). Transcont. in Transit., U. Austr. zones, Newfoundland, N. W. T. Host: *Crymodes devastator* Brace. Transf. from **Amblyteles** Wesmael, p. 295 (*teste* Heinrich, 1959, Ent. News 70 (8): 209).

**Amblyteles aleatorius** (Cresson) (syn. *teste* Heinrich, *loc. cit. supra*).

**Amblyteles inconstans** (Cresson) (syn. *teste* Heinrich, *loc. cit. supra*).

?**superbus** (Provancher). N. S. to B. C., N. W. T., Colo., Tex., Hawaii. Hosts: *Euxoa flavicollis* Sm., *E. messoria* Harr., *E. ochrogaster* Gn., *E. scandens* Riley, *Feltia ducens* Wlkr., *Chorizagrotis auxiliaris* Grt. Transf. from **Amblyteles** Wesmael, p. 295 (*teste* Heinrich, 1959, Ent. News 70 (8): 209).

**Pseudamblyteles koebeli** (Swezey) (syn. *teste* Heinrich, *loc. cit. supra*).

Taxonomy: Heinrich, 1961 (1960). Pt. II. Canad. Ent. Sup. 18 [vol. 92]: 182, 192-194.

**taos** (Cresson). Que., Maine, Mass.

\***valdetypicus** Heinrich. Man. (Riding Mt. Natl. Pk.).

**Spilichneumon valdetypicus** Heinrich, 1961 (1960). Pt. II. Canad. Ent. Sup. 18 [vol. 92]: 182, 186. ♀.

#### \*Genus **OBTUSODONTA** Heinrich

**Obtusodonta** Heinrich, 1962. Pt. VII. Canad. Ent. Sup. 29: 872.

Type: **Spilichneumon obscuricolor** Heinrich. Orig. desig.

Place in Catalog on p. 295 after **Spilichneumon** Thomson.

\***foxleei** Heinrich. B. C.

**Obtusodonta foxleei** Heinrich, 1962. Pt. VII. Canad. Ent. Sup. 29: 873, 874. ♀.

\***manitobae** Heinrich. Man., Alta.

**Obtusodonta manitobae** Heinrich, 1962. Pt. VII. Canad. Ent. Sup. 29: 873, 874. ♀.

\***montana** Heinrich. Que., Maine.

**Obtusodonta montana** Heinrich, 1962. Pt. VII. Canad. Ent. Sup. 29: 873, 875. ♂, ♀.

\***obscuricolor** (Heinrich). Que., Maine, Conn., N. Y., Ont., Sask.

(?) **Spilichneumon obscuricolor** Heinrich, 1961 (1960). Pt. II. Canad. Ent. Sup. 18 [vol. 92]: 182, 183, 195. ?♂, ♀.

#### Genus **CTENICHNEUMON** Thomson, pp. 295-296

\***caeruleops** Heinrich. Sask., B. C.

**Ctenichneumon caeruleops** Heinrich, 1961. Pt. IV. Canad. Ent. Sup. 23: 452, 453, 461. ♂, ♀.

\***columbianus** Heinrich. B. C., Yukon, Alaska.

**Ctenichneumon columbianus** Heinrich, 1961. Pt. IV. Canad. Ent. Sup. 23: 452, 453, 457. ♂, ♀.

**electus** (Cresson). Questionable syn. of **syphax** (Cresson).

**excultus** (Cresson).

Taxonomy: Heinrich, 1961, Pt. IV, pp. 452, 453, 454-457.

\**gracilior* Heinrich. Maine, Que.

*Ctenichneumon gracilior* Heinrich, 1961. Pt. IV. Canad. Ent. Sup. 23: 452, 453, 470. ♂, ♀.

\**heteropus* Heinrich. B. C.

*Ctenichneumon heteropus* Heinrich, 1961. Pt. IV. Canad. Ent. Sup. 23: 452, 453, 454. ♂, ♀.

\**holomelas* Heinrich. Man. (Cedar Lake).

*Ctenichneumon holomelas* Heinrich, 1961. Pt. VI. Canad. Ent. Sup. 23: 451, 460. ♀.

\**minor* Heinrich. N. S., N. B., Maine, Que., Ont., Conn., N. Y., W. Va., Man., Sask.

*Ctenichneumon minor* Heinrich 1961. Pt. IV. Canad. Ent. Sup. 23: 451, 453, 458. ♂, ♀.

\**punctiscuta* Heinrich. Man., B. C.

*Ctenichneumon punctiscuta* Heinrich, 1961. Pt. IV. Canad. Ent. Sup. 23: 452, 463. ♀.

\**rufibasis* Heinrich. Maine, Que.

*Ctenichneumon rufibasis* Heinrich, 1961. Pt. IV. Canad. Ent. Sup. 23: 452, 469. ♀.

*ruidosensis* (Cockerell).

Taxonomy: Heinrich, 1961, Pt. IV, pp. 453, 474-475.

*semicaeruleus* (Cresson). Man., Alta.

Taxonomy: Heinrich, 1961, Pt. IV, pp. 452, 453, 461 (♂ descr.).

*syphax* (Cresson). Atlantic to 100° W in U. Austr., Transit., Canad. Zones, Alta.

?*Ichneumon detritus* Brullé. Transf. to *Probolus* Wesmael, p. 283, as valid sp.

?*Ctenichneumon electus* (Cresson) (syn. *teste* Heinrich, 1961, Pt. IV, p. 471).

*Ichneumon marianopolitanensis* Provancher (syn. *teste* Heinrich, 1959, Ent. News 70 (8): 210).

?*Ichneumon nitidus* Provancher (syn. *teste* Heinrich, 1961, Pt. IV, p. 471).

*Amblyteles rufizonatus* (Cresson) (syn. *teste* Heinrich, 1959, Ent. News 70 (8): 210).

\**townesi* Heinrich. Maine, N. Y., Mich.

*Ctenichneumon townesi* Heinrich, 1961. Pt. IV. Canad. Ent. Sup. 23: 452, 453. ♂, ♀.

*ultus* (Cresson).

Taxonomy: Heinrich, 1961, Pt. IV, pp. 452, 453, 464-467 (♀ descr.).

\*Genus **PROTOPELMUS** Heinrich

*Protopelmus* Heinrich, 1959. Ent. Soc. Wash. Proc. 61 (5): 200.

Type: *Trogus atrocoeruleus* Cresson. By monotypy and orig. desig.

Place on p. 296, before *Tricholabus* Thomson.

*atrocoeruleus* (Cresson). Fla., Tex. Host: *Ecpantheria deflorata* (F.); *E. muzina* Oberth. Transf. from *Trogus* in Alphabetic List of Unplaced Species, p. 409 (*teste* Heinrich, 1959, Ent. Soc. Wash. Proc. 61 (5): 200).

Taxonomy: Heinrich, 1962, Pt. V, pp. 511-512.

Genus **TRICHO LABUS** Thomson, p. 296, Sup. 1, p. 51

*Otohimea* Uchida, 1926. Hokkaido Imp. Univ. Coll. Agr. Jour. 18: 146.

Type: (*Otohimea nigra* uchida) = *incanescens* (Smith). Orig. desig.

*adventicus* (Hopper). Ala., Fla.

Taxonomy: Heinrich, 1961, Pt. IV, pp. 389, 393-395 (♂ descr.).

**citatus** (Provancher).

*Ichneumon merus* Cresson. Remove from syn. and place as syn. of *nortonii* (Cresson).

*Tricholobus tricolor* (Davis) (syn. *teste* Heinrich, 1961, Pt. IV, p. 391).

\***foxleei** Heinrich. B. C., Calif.

*Tricholobus foxleei* Heinrich, 1961. Pt. IV. Canad. Ent. Sup. 23: 389, 396. ♂, ♀.

\***mittchelli** Heinrich. Mass., N. Y. to Ga., Ark.

*Tricholobus mittchelli* Heinrich, 1961. Pt. IV. Canad. Ent. Sup. 23: 389, 395. ♂, ♀.

**nortonii** (Cresson).

*Ichneumon merus* Cresson (syn. *teste* Heinrich, 1961, Pt. IV, pp. 389, 390).

**pax** (Dalla Torre).

Taxonomy: Heinrich, 1961, Pt. IV, pp. 389, 397.

**tricolor** (Davis). Syn. of **citatus** (Provancher).

#### \*Genus THYRATELES Perkins

*Thyrateles* Perkins, 1953. Brit. Mus. (Nat. Hist.) Bul. Ent. 3 (4): 149.

Type: *Amblyteles camelinus* Wesmael. By monotypy and orig. desig.

Taxonomy: Heinrich, 1961. Pt. III, pp. 348-349.

Place on page 296 of Catalog after *Tricholobus* Thomson.

\***amoenapex** Heinrich. N. W. T. (Norman Wells).

*Thyrateles amoenapex* Heinrich, 1961. Pt. III. Canad. Ent. Sup. 21 [vol. 93]: 348, 357. ♀.

\***caliginops** Heinrich. Maine, Que., Ont., Conn., N. Y., W. Va., Minn. Host: *Vanessa atalanta* (L.).

*Thyrateles caliginops* Heinrich, 1961. Pt. III. Canad. Ent. Sup. 21 [vol. 93]: 212, 215, 226, 348, 351. ♂, ♀.

\***camelinops** Heinrich. Alta., B. C. Host: *Nymphalis milberti* Godt; *Polygonia* sp.

*Thyrateles camelinops* Heinrich, 1961. Pt. III. Canad. Ent. Sup. 21 [vol. 93]: 212, 215, 348, 349. ♂, ♀.

**instabilis** (Cresson). Hosts: *Colias philodice* Latr.; place ? before *Oeneis melissa* (F.). Transf. from (*Pterocormus* Foerster of Catalog, p. 299) = *Ichneumon* Linnaeus, Sup. 1, p. 51 (*teste* Heinrich, 1961, Pt. III, pp. 284 (text, 348, 352)).

**lugubror** (Gravenhorst). Transf. from **Alphabetic List of Unplaced Species**, p. 408 (*teste* Heinrich, 1961, Pt. III, p. 354).

*Pterocormus rufiventris* (Brullé) (syn. *teste* Townes, 1961 (June). Ent. Soc. Proc. 63: 108).

*Pterocormus rufiventris* var. *incertus* (Cresson) (syn. *teste* Heinrich, 1961, Pt. III, p. 354).

**mormonus** (Cresson). Ont. Host: *Polygonia* sp. Transf. (with its syn.) from *Pseudamblyteles* Ashmead, p. 203 (*teste* Heinrich, 1959. Ent. News 70 (8): 210).

**procax** (Cresson). Host: *Vanessa antiopa* (L.). Transf. from (*Pterocormus* Foerster of Catalog, p. 300) = *Ichneumon* Linnaeus (*teste* Heinrich, 1959, Ent. News 70 (8): 210).

*Amblyteles torontosus* Davis (syn. *teste* Heinrich, loc. cit. supra).

Genus ICHNEUMON Linnaeus, Sup. 1, pp. 51-52

(= *Pterocormus* Foerster of Catalog, pp. 296-301)

*Brachypterus* Gravenhorst. Delete "Desig. by Westwood, 1839" and add: By monotypy.



- Pterocormus*** Foerster. N. name for ***Brachypterus*** Gravenhorst. Delete "Orig. desig." and add: By substitution of ***Pterocormus*** for ***Brachypterus***.  
Taxonomy: Heinrich, 1961, Pt. III, pp. 211-321; 1962, Pt. VII, pp. 877-881.
- ambulatorius*** Fabricius. Newfoundland, Que. in Canad. Zone; B. C. Hosts: *Faronta diffusa* Wlkr.; *Hydroecia immanis* Gn.  
Taxonomy: Heinrich, 1961, Pt. III, pp. 218, 228, 229, 242-244 (var. *mulator* Cresson).
- \*annulatorius** Fabricius. Newfoundland.  
***Pterocormus funestus*** (Cresson) (syn. *teste* Heinrich, 1961, Pt. III, pp. 232, 246, 248).  
Taxonomy: Heinrich, 1961, Pt. III, pp. 223, 230, 233, 246-248.
- \*anonymus** Heinrich. Maine, Que., Ont., Mass., N. Y., Pa., W. Va. Md.  
***Ichneumon anonymus*** Heinrich, 1961. Pt. III. Canad. Ent. Sup. 21 [vol. 93]: 221, 222, 224, 255. ♂, ♀.
- approximans** Provancher.  
Taxonomy: Heinrich, 1961, Pt. III, pp. 228, 343-344.
- artemis** (Viereck).  
Taxonomy: Heinrich, 1961, Pt. III, pp. 213, 312-313.
- atrox** Cresson: Labrador, Ont., Man., B. C.  
Taxonomy: Heinrich, 1961, Pt. III, pp. 217, 226, 328-329 (♂ descr.).
- bimembris** Provancher. Ont. (Canad. Zone). Elevated to specific rank (*teste* Heinrich, 1961, Pt. III, pp. 336-337); reduced to subsp. of ***languidus*** Wesmael in Sup. 1, p. 51.
- brevipennis** (Cresson). Transf. to ***Cratichneumon*** Thomson.
- \*broweri** Heinrich. Maine (Mt. Katahdin).  
***Ichneumon broweri*** Heinrich, 1961. Pt. III. Canad. Ent. Sup. 21 [vol. 93]: 215, 337. ♀.
- \*browni** Heinrich. Que. (Mt. Lyall, Gaspé).  
***Ichneumon browni*** Heinrich, 1961. Pt. III. Canad. Ent. Sup. 21 [vol. 93]: 225, 277. ♀.
- burkei** (Viereck). Transf. to ***Orgichneumon*** Heinrich as syn. of ***calcatorius*** (Thunberg).
- caliginosus** Cresson. Transcont., N. W. T. Hosts: Delete *Basilarchia archippus* (Cram.) and *Vanessa atalanta* (L.); add *Polygonia gracilis* Grote.  
Taxonomy: Heinrich, 1961, Pt. III, pp. 212, 215, 229, 332-334 (♂ descr.; sp. restricted).
- calitergus** Cresson. Que.  
Taxonomy: Heinrich, 1961, Pt. III, pp. 216, 229, 326-327 (♂ descr.).
- canadensis** Cresson. Newfoundland, N. S., P. E. I., N. B., Maine, Que., Ont. Host: *Pseudaletia unipuncta* (Haw.).  
***Amblyteles ctenuchae*** Cushman. Remove from syn. and place as syn. of ***trizonatus*** Provancher (*teste* Heinrich, 1961, Pt. III, p. 238; also Heinrich, 1959, Ent. News 70: 104 (desig. new lectotype)).
- \*canadicola** Heinrich. Newfoundland, Que., Maine, Ont., Mass. Transit. and Canad. Zones.  
***Ichneumon canadicola*** Heinrich, 1961. Pt. III. Canad. Ent. Sup. 21 [vol. 93]: 219, 293. ♀.
- centrator** Say. B. C.
- ?cervulus** Provancher. Maine.  
Taxonomy: Heinrich, 1961, Pt. III, pp. 228, 271.
- cessatorops kazubazuae** Heinrich. Alta.  
Taxonomy: Heinrich, 1961, Pt. III, pp. 217, 319-320 (♂ descr.).

- \***chasmodops** Heinrich. Maine, Que., Ont., N. H., N. Y., Minn., Man.  
*Ichneumon chasmodops* Heinrich, 1961. Pt. III. Canad. Ent. Sup. 21 [vol. 93]: 223, 230, 259. ♀. (♂ misdet. *teste* Heinrich, 1962, Pt. VII, p. 877).
- citrifrons** Cresson. Ont. to N. J., Md., west to Ill. and Mich.  
*Ichneumon tumidifrons* Cresson. Remove from syn. A valid species.
- \***conscopa** Heinrich. Maine (Dryden).  
*Ichneumon conscopa* Heinrich, 1961. Pt. III. Canad. Ent. Sup. 21 [vol. 93]: 222, 250. ♀.
- creperus** Cresson. N. W. T., Alaska, B. C. Host: *Actebia fennica* Tausch.  
 Taxonomy: Heinrich, 1961, Pt. III, pp. 222, 228, 237-238 (♀ descr.).
- curticrus** (Provancher). Man.
- deliratorius cinctitarsis** Provancher. P. E. I., Ont. to B. C. Question host reference. See sup. 1, p. 51.  
*Pterocormus stygicus* (Cresson) (syn. *teste* Heinrich, 1961, Pt. III, p. 331).  
 Taxonomy: Heinrich, 1961. Pt. III, pp. 217, 226, 330-331.
- devinctus** (Say). Ont., Alta., N. W. T.  
 Taxonomy: Heinrich, 1961, Pt. III, pp. 217, 227, 262-264.
- \***dioryctriae** Heinrich, emend. N. B., Maine, Que., Ont. Host: *Dioryctria reniculella* Grote.  
*Ichneumon dioryctiae* [sic!] Heinrich, 1961. Pt. III. Canad. Ent. Sup. 21 [vol. 93]: 215, 226, 341. ♂, ♀.
- \***eurypus** Heinrich. Que., Ont., N. W. T., Alta.  
*Ichneumon eurypus* Heinrich, 1961. Pt. III. Canad. Ent. Sup. 21 [vol. 93]: 216, 325. ♀.
- feralis** Cresson. Maine, Labrador. Host: ?*Hepialus mustelinus* Pack.  
 Taxonomy: Heinrich, 1961, Pt. III, pp. 216, 320-321; 1962, Pt. VII, pp. 879-880 (♂ descr.).
- \***feriens** Heinrich. N. B., Maine., Que., N. H., N. Y., Ont., Mich., Man., Alta., B. C., Alaska, Transit. and Canad. Zones.  
*Ichneumon feriens* Heinrich 1961. Pt. II. Canad. Ent. Sup. 21 [vol. 93]: 216, 229, 231, 321. ♂, ♀.
- \***foxleei** Heinrich. Wyo., B. C., Yukon.  
*Ichneumon foxleei* Heinrich, 1961. Pt. III. Canad. Ent. Sup. 21 [vol. 93]: 219, 309. ♀.
- fuscifrons** Cresson.  
 Taxonomy: Heinrich, 1961. Pt. III, pp. 220, 229, 294-297. (♂ descr.).
- gestuosus** Cresson. Maine, N. H., Ont. Host: *Choristoneura fumiferana* (Clem.). Transf. from *Melanichneumon* Thomson, p. 285 (*teste* Heinrich, 1959, Ent. News 70 (8): 207).
- \***glaucopygos** Heinrich. Maine, Que., Mass., N. Y.  
*Ichneumon glaucopygos* Heinrich, 1961. Pt. III. Canad. Ent. Sup. 21 [vol. 93]: 224, 248. ♀.
- \***gracilicornops** Heinrich. Labrador, Que., Maine, Ont., Man., Sask., Alta.  
*Ichneumon gracilicornops* Heinrich, 1961. Pt. III. Canad. Ent. Sup. 21 [vol. 93]: 220, 278. ♀.
- \***grandisops** Heinrich. Conn., N. Y., Ohio, N. C.  
*Ichneumon grandisops* Heinrich, 1961. Pt. III. Canad. Ent. Sup. 21 [vol. 93]: 218, 305, ♀.
- heterocampae** (Cushman). Que., Ont., Pa.
- \***heterodon** Heinrich. Ont., N. Y.  
*Ichneumon heterodon* Heinrich, 1961. Pt. III. Canad. Ent. Sup. 21 [vol. 93]: 219, 306. ♀.

- \***hippisleayae** Heinrich. Man. (Dauphin Lake).  
*Ichneumon hippisleayae* Heinrich, 1961. Pt. III. Canad. Ent. Sup. 21 [vol. 93]: 225, 264. ♀.
- \***homoioden** Heinrich. N. J., Mich.  
*Ichneumon homoioden* Heinrich, 1961. Pt. III. Canad. Ent. Sup. 21 [vol. 93]: 219, 311. ♀.
- \***homorus** Heinrich. N. B., Maine, Que., Ont., Vt., N. Y.  
*Ichneumon homorus* Heinrich, 1961. Pt. III. Canad. Ent. Sup. 21 [vol. 93]: 216, 217, 322. ♀.
- hospitus** Cresson. Maine.  
 Taxonomy: Heinrich, 1961, Pt. III, pp. 224, 228, 271-272 (♂ ?).
- \***hypermelanos** Heinrich. Ont. (Sudbury).  
*Ichneumon hypermelanos* Heinrich, 1961. Pt. III. Canad. Ent. Sup. 21 [vol. 93]: 216, 259. ♀.
- infidelis** (Cresson). Transf. to **Orgichneumon** Heinrich as syn. of **calcatorius** (Thunberg).
- instabilis** (Cresson). Transf. to **Thyrateles** Perkins.  
*Amblyteles (Pterocormus) winkleyi* Viereck. Remove from syn.; a valid species in **Ichneumon** Linnaeus.
- inurbanus** Cresson.  
 Taxonomy: Heinrich, 1961, Pt. III, pp. 219, 310.
- klagesi** Viereck.  
 Taxonomy: Heinrich, 1961, Pt. III, pp. 227, 346 (type not found).
- lachrymans** Provancher. Maine, N. Y.  
 Taxonomy: Heinrich, 1961, Pt. III, pp. 224, 229, 269-271 (♀ descr.).
- lactus** Brullé.  
 Taxonomy: Heinrich, 1961, Pt. III, pp. 222, 231-234 (table to sep. from *annulatorius* F.).
- lariae labradoris** Heinrich. ? N. H.
- lariae lariae** Curtis. Greenland, N. W. T. (Boothia Peninsula), Baffin Is.  
 Taxonomy: Heinrich, 1961, Pt. III, p. 254 (neotype selected).
- \***leucocoxalis** Heinrich. Maine, Pa.  
*Ichneumon leucocoxalis* Heinrich, 1961. Pt. III. Canad. Ent. Sup. 21 [vol. 93]: 225, 266. ♀.
- lewisii** Cresson. Transf. from **Pseudamblyteles** Ashmead, p. 293 (*teste* Heinrich, 1959. Ent. News 70 (8): 207). Question syn. of **fulvopictus** Ashmead (*teste* Heinrich, 1961, Pt. III, p. 300).
- lividulus** (Provancher). Syn. of **zelotypus** Cresson.
- \***mainensis** Heinrich. Maine (Dryden).  
*Ichneumon mainensis* Heinrich, 1962. Pt. VII. Canad. Ent. Sup. 29: 880. ♀.
- maius** Cresson. N. B., Que., Mass., Ont. Host: *Lexis bicolor* Grote.  
*Ichneumon versabilis* Cresson. Remove from syn. A valid species.  
*Ichneumon (Pterocormus) brittoni* Viereck. Remove from syn. and transf. to syn. of **versabilis** Cresson.
- \***melanarcticus** Heinrich. Que., Labrador.  
*Ichneumon melanarcticus* Heinrich, 1961. Pt. III. Canad. Ent. [vol. 93]: 215, 331. ♀.
- mendax** Cresson.  
 Taxonomy: Heinrich, 1961. Pt. III, pp. 215, 226, 334-335 (♂ descr.).
- \***microferiens** Heinrich. Ont., Man., Alta., Alaska, Canad. Zone.  
*Ichneumon microferiens* Heinrich, 1961. Pt. III. Canad. Ent. Sup. 21 [vol. 93]: 216, 323. ♀.

\**mystificans* Heinrich. Maine, Labrador.

*Ichneumon mystificans* Heinrich, 1961. Pt. III. Canad. Ent. Sup. 21 [vol. 93]: 227, 342. ♂.

\**nearctivernus* Heinrich.

*Ichneumon computatorius nearctivernus* Heinrich, 1956. Canad. Ent. 78 (2): 648. ♀.

Taxonomy: Heinrich, 1961, Pt. III, p. 339 (raised to sp. rank).

*nebularum* Heinrich. ? N. H.

Taxonomy: Heinrich, 1961, Pt. III, pp. 217, 226, 317-318 (♂ descr.).

\**neomolitor* Heinrich. Alta. (Banff).

*Ichneumon neomolitor* Heinrich, 1961. Pt. III. Canad. Ent. Sup. 21 [vol. 93]: 217, 329. ♀.

\**neosarcitor* Heinrich. Maine.

*Ichneumon neosarcitor* Heinrich, 1961. Pt. III. Canad. Ent. Sup. 21 [vol. 93]: 218, 230, 244. ♂, ♀.

\**nereni emigrator* Heinrich. P. E. I., Maine, Que., Ont. *I. nereni nereni* Thomson is European.

*Ichneumon nereni emigrator* Heinrich, 1961. Pt. III. Canad. Ent. Sup. 21 [vol. 93]: 220, 230, 289. ♂, ♀.

*neutralis* (Cresson). Transf. with its syn. to *Melanichneumon* subg. *Vulgichneumon* Heinrich as subsp. of *subcyaneus* Cresson (*teste* Heinrich, 1959. Ent. News 70 (8): 212; 1961, Pt. V, pp. 581, 610-611).

*nigratorius* (Fabricius). Preoccupied by Müller and replaced by *nigriculus* n. name in Sup. 1, p. 52.

*nigriculus* Walkley. Remove from Catalog and Sup. 1; sp. recorded in error from Nearctic region.

*Ichneumon nigratorius* Fabricius (Catalog, p. 300), preocc. Syn. of *Amblyjoppa proteus* (Christ), a European species (*teste* Heinrich, 1961, Pt. III, p. 346).

*nigrotergus* Davis.

Taxonomy: Heinrich, 1961, Pt. IV, p. 417 (in text).

*nigrovariegatus* (Provancher). Newfoundland.

Taxonomy: Heinrich, 1961, Pt. III, pp. 225, 229, 273-275 (♂ descr.).

\**oblitus oblitus* Heinrich. Maine, Que., Ont.

*Ichneumon oblitus oblitus* Heinrich, 1961. Pt. III. Canad. Ent. Sup. 21 [vol. 93]: 223, 228, 234. ♂, ♀.

\**oblitus polyglauco*s Heinrich. N. Y., S. Dak.

*Ichneumon oblitus polyglauco*s Heinrich, 1961. Pt. III. Canad. Ent. Sup. 21 [vol. 93]: 223, 228, 236. ♂, ♀.

*parvus* Cresson.

?*Ichneumon xanthopsis* Ashmead. (Syn. questioned by Heinrich, 1961, Pt. III, p. 345).

*pedalis* Cresson.

Taxonomy: Heinrich, 1961, Pt. III, pp. 226, 313 (text of *artemis* Viereck), 347.

\**perlugubris* Heinrich. Que., Sask.

*Ichneumon perlugubris* Heinrich, 1961. Pt. III. Canad. Ent. Sup. 21 [vol. 93]: 218, 306. ♀.

*peroratus* (Cameron). Transf. from *Alphabetic List of Unplaced Species*, p. 409 (*teste* Townes, 1961, Ent. Soc. Wash. Proc. 63 (2): 112).

*placidus* Provancher. Maine, Ont., Utah.

Taxonomy: Heinrich, 1961, Pt. III, pp. 218, 227, 302 (♀ descr.).

- \***polargus** Heinrich. Labrador, Ont., Man., Canad. Zone.  
*Ichneumon polargus* Heinrich, 1961. Pt. III. Canad. Ent. Sup. 21 [vol. 93]: 216, 327. ♀.
- procax** (Cresson). Transf. to **Thyrateles** Perkins.
- propitius** Cresson. Maine, Que., Ont. Transf. from **Hoplismenus** Gravenhorst, p. 284 (*teste* Heinrich, 1959, Ent. News 70 (8): 207).
- \***pseudomaius** Heinrich. Mass. (Cambridge).  
*Ichneumon pseudomaius* Heinrich, 1961. Pt. III. Canad. Ent. Sup. 21 [vol. 93]: 220, 280. ♀.
- \***pseudovivax** Heinrich. Maine (Dryden).  
*Ichneumon pseudovivax* Heinrich, 1961. Pt. III. Canad. Ent. Sup. 21 [vol. 93]: 221, 286. ♀.
- \***pseudowinkleyi** Heinrich. Maine, Que., N. Y., Ont. Man., Alta.  
*Ichneumon pseudowinkleyi* Heinrich, 1961. Pt. III. Canad. Ent. Sup. 21 [vol. 93]: 221, 223, 252. ♀.
- \***pumiliops** Heinrich. Que., Ont., Mass., N. Y.  
*Ichneumon pumiliops* Heinrich, 1961. Pt. III. Canad. Ent. Sup. 21 [vol. 93]: 225, 276. ♀.
- \***pusillamoenus** Heinrich. Que., Ont.  
*Ichneumon pusillamoenus* Heinrich, 1961. Pt. III. Canad. Ent. Sup. 21 [vol. 93]: 224, 272. ♀.
- putus** Cresson.  
 Taxonomy: Heinrich, 1961, Pt. III, pp. 220, 290-291.
- \***pycnocephalus** Heinrich. B. C., Yukon.  
*Ichneumon pycnocephalus* (!) Heinrich, 1961. Pt. III. Canad. Ent. Sup. 21 [vol. 93]: 223 [**pycnocephalus**], 261. ♀.
- quadrizonatus** (Viereck). Syn. of **subdolos** Cresson.
- restrictus** Cresson.  
 Taxonomy: Heinrich, 1961, Pt. III, pp. 228, 344-345 (♀ prob. known but not associated).
- rufiventris** (Brullé). Transf. to **Thyrateles** Perkins, p. 296, as syn. of **lugubrior** (Gravenhorst).  
*Ichneumon semiooccineus* Cresson. Remove from syn. A valid sp.
- rufiventris** var. **incertus** (Cresson). Transf. to **Thyrateles** Perkins, as syn. of **lugubrior** (Gravenhorst).
- saucius** Cresson. Que. Host: *Paranthrene palmii* Hy. Edw. Transf. from *Chasmias* Ashmead, p. 292 (*teste* Heinrich, 1961, Pt. III, pp. 212, 335).  
*Chasmias torvinus* (Cresson) (syn. *teste* Heinrich, 1961, Pt. III, p. 335).
- semiooccineus** Cresson. N. Y., Del., S. C., "Western Terr." Removed from syn. of **rufiventris** (Brullé). A valid sp. (*teste* Heinrich, 1959, Ent. News 70 (8): 207).  
 Taxonomy: Heinrich, 1961, Pt. III, pp. 227, 310, 311-312.
- similaris** Provancher. Transcont. in Canad. Zone.  
 Taxonomy: Heinrich, 1961, Pt. III, pp. 217, 226, 313-314 (♀ descr.).
- \***stagniphilos** Heinrich. Ont. (Ottawa).  
*Ichneumon stagniphilos* Heinrich, 1961. Pt. III. Canad. Ent. Sup. 21 [vol. 93]: 222, 224, 249. ♀.
- stygius** Cresson. Syn. of **deliratorius cinctitarsis** Provancher.
- subdolos** Cresson. N. S., P. E. I., Que., Ont., to N. C., Alta.  
*Pterocormus quadrizonatus* (Viereck) (syn. *teste* Heinrich, 1959, Ent. News 70 (8): 208).
- \***substituens** Heinrich. Mass. (Cambridge).  
*Ichneumon substituens* Heinrich, 1961. Pt. III. Canad. Ent. Sup. 21 [vol. 93]: 225, 265. ♀.

\***suburbanus** Heinrich. N. S., P. E. I., Que., Maine, Conn., Mass., Ont., Mich., Man., Alta.

*Ichneumon suburbanus* Heinrich, 1961. Pt. III. Canad. Ent. Sup. 21 [vol. 93]: 219, 227, 307. ♂, ♀.

\***subversatus** Heinrich. Que., Maine, Ont.

*Ichneumon subversatus* Heinrich, 1961. Pt. III. Canad. Ent. Sup. 21 [vol. 93]: 221, 283. ♀.

**terminatus** Provancher. Ont., Maine, Mich.

Taxonomy: Heinrich, 1961, Pt. III, pp. 224, 267, 268-269.

\***tritus** Heinrich. Que., Ont., N. Y.

*Ichneumon tritus* Heinrich, 1961. Pt. III. Canad. Ent. Sup. 21 [vol. 93]: 221, 224, 256. ♀.

**trizonatus** Provancher.

*Amblyteles ctenuchae* Cushman (syn. *teste* Heinrich, 1961, Pt. III, pp. 222, 230, 238 (text), 292).

**truculentus** Cresson. Que.

**tumidifrons** Cresson. Ill. A valid species (*teste* Heinrich, 1961, Pt. III, p. 224, 267-268).

**ultimus** Cresson. Que., Maine, Ont., Md., W. Va., Canad. and Transit. Zones.

Taxonomy: Heinrich, 1961, Pt. III, pp. 222, 229, 257 (♂ descr.).

**uncinatus** Cresson. Ont., Mich.

\***valdopacus** Heinrich. Maine (Greenville).

*Ichneumon valdopacus* Heinrich, 1961. Pt. III. Canad. Ent. Sup. 21 [vol. 93]: 220, 221, 286. ♀.

**versabilis** Cresson. Atlantic to Cont. Divide in Canad. Zone and cooler part Transit. Zone. Hosts: *Euphydryas phaëton* (Dru.); *Polygonia faunus* (Edw.); *Lycaena hypophlaeas* (Bdvl.). A valid species (*teste* Heinrich, 1959, Ent. News 70 (8): 208).

*Amblyteles (Pterocormus) brittoni* Viereck (syn. *teste* Heinrich, 1961, Pt. III, pp. 219, 221, 228, 230, 281-283, 284).

**vicinus** Cresson.

Taxonomy: Heinrich, 1961, Pt. III, pp. 224, 236-237 (generic placement).

**vivax** Cresson. Ont.

**volesus** Cresson. N. S., Maine, Que., Ont., Man.

*Amblyteles balteatus* Hopper (syn. *teste* Heinrich, 1959, Ent. News 70 (8): 208). Transf. from syn. of *Amblyteles rufizonatus* (Cresson) (*teste* Heinrich, 1961, Pt. IV, p. 471).

\***walleyi** Heinrich. Ont. (Smoky Falls).

*Ichneumon walleyi* Heinrich, 1961. Pt. III. Canad. Ent. Sup. 21 [vol. 93]: 215, 338. ♀.

**winkleyi** (Viereck). Que., Maine, Conn., Ont., ?N. B. A valid species (*teste* Heinrich, 1959, Ent. News 70 (8): 208).

**zelotypus** Cresson. Que., Maine, Ont.

*Pterocormus lividulus* (Provancher) (syn. *teste* Heinrich, 1959, Ent. News 70 (8): 209).

#### \*Genus ORGICHNEUMON Heinrich

*Orgichneumon* Heinrich, 1961 (1960). Pt. I. Canad. Ent. Sup. 15 [vol. 92] p. 15; Pt. II, Sup. 18, p. 95.

Type: *Ichneumon calcatorius* Thunberg. By monotypy and orig. desig.

Place in *Ichneumonini* on p. 301, immediately before (*Ichneumonini*) = *Protichneumoni*.

**calcatorius** (Thunberg). P. E. I., N. S., N. B., Ont., S. C., B. C. Hosts: *Dasychira plagiata* (Wlkr.), *Orgyia antiqua* (L.), *O. leucostigma*

A. & S. Transf. from *Coelichneumon* Thomson, Sup. 1, p. 52  
(*teste* Heinrich 1961 (1960), Pt. I, pp. 15, 95).

*Coelichneumon otiosus* (Say) (syn. *teste* Heinrich, 1956, Canad. Ent. 87  
(11): 647).

*Pterocormus infidelis* (Cresson) (syn. *teste* Heinrich, 1959, Ent. News:  
211).

*Pterocormus burkei* (Viereck) (syn. *teste* Heinrich, 1956, Canad. Ent.  
87 (11): 647).

# Tribe PROTICHNEUMONINI

(= *Ichneumonini* of Catalog)

I am not at all sure that this segregate deserves tribal rank. J. R. T. Short can find no larval differences, and the placement of some genera in either the Protichneumonini or Ichneumonini is more or less arbitrary.

Revision: Heinrich, 1961 (1960). Pt. I. Canad. Ent. Sup. 15 [vol. 92]:  
20-87.

## Genus COELICHNEUMON Thomson, Sup. 1, p. 52

(= *Ichneumon* of Catalog, pp. 301-303)

\**albicoxa* Heinrich. Ont., Mich., Wis., N. C.

*Coelichneumon albicoxa* Heinrich, 1961 (1960). Pt. I. Canad. Ent. Sup.  
15 [vol. 92]: 34, 81. ♂.

*ater* (Cresson). Que., Maine, Vt., Ont., Ohio.

Taxonomy: Heinrich, 1961 (1960), Pt. I, pp. 31, 35, 55-56. ♂, ♀.

*azotus* (Cresson). Maine, Que., Ont.

*barnstoni* Morley. Ont., Pa., Md., Wis., Alta. In bibliog. ref. change: ♂, ♀.  
to: ♂ (♀ misdet.).

Taxonomy: Heinrich, 1961 (1960), Pt. I, pp. 29, 34, 54 (♂ descr.).

*brunneri* (Rohwer). Maine, Ont., Colo. Host: *Dioryctria auranticella*  
(Grote).

*calcatorius* (Thunberg). Transf. to \**Orgichneumon* Heinrich.

*chalybeus* (Cresson). Correct spelling of *chalybaeus* in catalog, p. 303.

Taxonomy: Heinrich, 1961 (1960), Pt. I, pp. 29, 50-51.

*citimus* (Cresson). N. H. Removed from syn. of *germanus* Cresson; valid sp.  
(*teste* Heinrich, 1961 (1960), Pt. I, pp. 35, 81).

\**columbianus* Heinrich. B. C. (Robson).

*Coelichneumon columbianus* Heinrich, 1961 (1960). Pt. I. Canad. Ent.  
Sup. 15 [vol. 92]: 28, 38. ♀.

\**eximiops* Heinrich. Maine, Ill., Wis., Iowa, Kans. Host: *Achatodes zeae*  
(Harr.).

*Coelichneumon eximiops* Heinrich, 1961 (1960). Pt. I. Canad. Ent. Sup.  
15 [vol. 92]: 29, 33, 49. ♂, ♀.

*eximius* (Stephens). Hosts: *Abagrotis placida* Grote, ?*Achatodes zeae*  
(Harr.).

Taxonomy: Heinrich, 1961 (1960), Pt. I, pp. 29, 33, 47-48 (♂ descr.).

\**flagellator* Heinrich. Colo.

*Coelichneumon flagellator* Heinrich, 1961 (1960). Pt. I. Canad. Ent.  
Sup. 15 [vol. 92]: 32, 71. ♀.

\**foxleei* Heinrich. B. C. (Robson).

*Coelichneumon foxleei* Heinrich, 1961 (1960). Pt. I. Canad. Ent. Sup.  
15 [vol. 92]: 29, 52. ♀.

*germanus* Cresson. Syn. of *histricus* Cresson.

*Ichneumon citimus* Cresson. Remove from syn.; a valid species.

*histricus* (Cresson). P. E. I., Maine, Pa., Ont., Mich., S. Dak., B. C.

*Ichneumon germanus* Cresson (syn. *teste* Heinrich, 1961 (1960), Pt. 1,  
pp. 31, 34, 66-67).

**jejunus** (Cresson). Que., Ont., Fla., Mont., B. C.

\***leucographus** Heinrich. Maine, Ont.

*Coelichneumon leucographus* Heinrich, 1961 (1960). Pt. I. Canad. Ent. Sup. 15 [vol. 92]: 29, 33, 39. ♀, ♂.

\***magniscopa** Heinrich. Ont., Maine, Mass., N. Y., N. C., Fla.

*Coelichneumon magniscopa* Heinrich, 1961 (1960). Pt. I. Canad. Ent. Sup. 15 [vol. 92]: 28, 33, 37. ♂, ♀.

\***masoni** Heinrich. B. C. (Squamish).

*Coelichneumon masoni* Heinrich, 1961 (1960). Pt. I. Canad. Ent. Sup. 15 [vol. 92]: 28, 43. ♀.

**maurus** (Cresson). Que., Ont., N. W. T., Alta., B. C., Calif.

Taxonomy: Heinrich, 1961 (1960). Pt. I, pp. 30, 35, 68-70 (♂ descr.).

**navus** (Say). Que., Maine, Ont., Kans., Fla.

\***neocitimus** Heinrich. N. W. T., Yukon.

*Coelichneumon neocitimus* Heinrich, 1961 (1960). Pt. I. Canad. Ent. Sup. 15 [vol. 92]: 30, 35, 79. ♂, ♀.

\***neocretatus** Heinrich. N. Y., Maine, Que., Ont., Sask., ?Kans. Transit. Zone.

*Coelichneumon neocretatus* Heinrich, 1961 (1960). Pt. I. Canad. Ent. Sup. 15 [vol. 92]: 29, 35, 51. ♂, ♀.

\***neomexicanus** Heinrich. N. W. (Manzano National Forest).

*Coelichneumon neomexicanus* Heinrich, 1961 (1960). Pt. I. Canad. Ent. Sup. 15 [vol. 92]: 29, 40. ♀.

**nigraticolor** (Viereck). Ont., Maine, Pa.

Taxonomy: Heinrich, 1961 (1960), Pt. I, pp. 30, 34, 64-65 (♂ descr.).

**nigrosignatus** (Viereck). Transf. from Alphabetic List of Unplaced Species, p. 408 (*teste* Heinrich, 1961 (1960), Pt. I, p. 82).

\***nudus** Heinrich. Ga. (Summerville).

*Coelichneumon nudus* Heinrich, 1961 (1960). Pt. I. Canad. Ent. Sup. 15, [vol. 92]: 29, 43. ♀.

\***obscuratus** Heinrich. B. C. (Robson).

*Coelichneumon obscuratus* Heinrich, 1961 (1960). Pt. I. Canad. Ent. Sup. 15 [vol. 92]: 29, 45. ♀.

**orpheus** (Cresson). Maine, Que. Host. "Notodontidae pupa".

Taxonomy: Heinrich, 1961 (1960), Pt. I, pp. 30, 35, 61-63 (♂ descr.).

**otiosus** (Say). Transf. to \***Orgichneumon** Heinrich.

**pepticus** (Cresson). Colo., Oreg., Wash.

Taxonomy: Heinrich, 1961 (1960), Pt. I, pp. 32, 35, 63-64 (♀ descr.).

**pequoitorum** (Viereck). Syn. of **pervagus** (Cresson).

**pervagus** (Cresson). N. S., Maine, Labrador, B. C. Host: *Scoliopteryx libatrix* L.

*Ichneumon pequoitorum* (Viereck) (syn. *teste* Heinrich, 1959, Ent. News 70 (8): 207).

\***phaenomenon** Heinrich. Maine, Alta., Alaska.

*Coelichneumon phaenomenon* Heinrich, 1961 (1960). Pt. I. Canad. Ent. Sup. 15 [vol. 92]: 28, 32, 35. ♂, ♀.

\***pomilioaeneus** Heinrich. Maine (Dryden).

*Coelichneumon pomilioaeneus* Heinrich, 1961 (1960). Pt. I. Canad. Ent. Sup. 15 [vol. 92]: 29, 50, 87. ♀ [spelled **pomiloaeneus** in key, p. 29].

**pulcher** (Brullé). Maine, Ont.

Taxonomy: Heinrich, 1961 (1960), Pt. I, pp. 28, 33, 46-47 (♂ descr.).

\***pulcherior** Heinrich. Ariz., Colo., B. C.

*Coelichneumon pulcherior* Heinrich, 1961 (1960). Pt. I. Canad. Ent. Sup. 15 [vol. 92]: 28, 36. ♀.



*pumilionobilis* Heinrich. Ont.

\**punctifer* Heinrich. N. Y., Md., Va., Tex.

*Coelichneumon punctifer* Heinrich, 1961 (1960). Pt. I. Canad. Ent. Sup. 15 [vol. 92]: 31, 34, 77. ♂, ♀.

\**quadriceps* Heinrich. Md., Va., W. Va., Mich.

*Coelichneumon quadriceps* Heinrich, 1961 (1960). Pt. I. Canad. Ent. Sup. 15 [vol. 92]: 31, 34, 78. ♂, ♀.

\**rubricoxa* Heinrich. Calif.

*Coelichneumon rubricoxa* Heinrich, 1961 (1960). Pt. I. Canad. Ent. Sup. 15 [vol. 92]: 32, 72. ♂, ♀.

\**rubroaeneus* Heinrich. Calif. (Lake Almanor). Host: *Ufens plicatus* Grote.

*Coelichneumon rubroaeneus* Heinrich, 1961 (1960). Pt. I. Canad. Ent. Sup. 15 [vol. 92]: 29, 43. ♀.

\**sassacoides* Heinrich. B. C.

*Coelichneumon sassacoides* Heinrich, 1961 (1960). Pt. I. Canad. Ent. Sup. 15 [vol. 92]: 28, 42. ♀.

*sassacus* (Viereck). Que., Maine, N. H., Ont., ?Calif.

Taxonomy: Heinrich, 1961 (1960), Pt. I, pp. 28, 33, 40-42.

*semilaevis* (Cresson). Que., N. W. T., B. C., Calif.

Taxonomy: Heinrich, 1961 (1960), Pt. I, pp. 32, 72-73 (♂ descr.).

\**similior* Heinrich. Ont., Maine.

*Coelichneumon similior* Heinrich, 1961 (1960). Pt. I. Canad. Ent. Sup. 15 [vol. 92]: 29, 44. ♂.

*solutus occidentalis* Roman. Transf. to \**Coelichneumonops* as a valid sp.

*tauma* Heinrich. Ont., Que., N. Y., Minn. Hosts: *Choristoneura fumiferana* Clemson; *Lexis bicolor* Grote.

\**terebratus* Heinrich. Colo.

*Coelichneumon terebratus* Heinrich, 1961 (1960). Pt. I. Canad. Ent. Sup. 15 [vol. 92]: 30, 70. ♀.

\**terebrifer* Heinrich. Va.

*Coelichneumon terebrifer* Heinrich, 1961 (1960). Pt. I. Canad. Ent. Sup. 15 [vol. 92]: 36, 71. ♀.

*viola* Cresson). Ont., Fla., Tex.

*vitalis* (Cresson). Maine, N. H., Md., Va., N. C., Ind., Utah.

\**walleyi* Heinrich. Ont., B. C.

*Coelichneumon walleyi* Heinrich, 1961 (1960). Pt. I. Canad. Ent. Sup. 15 [vol. 92]: 31, 34, 77. ♂, ♀.

\*Genus **COELICHNEUMONOPS** Heinrich

*Coelichneumonops* Heinrich, 1958. Canad. Ent. 90 (12): 739.

Type: \*(*Coelichneumonops vockerothi* Heinrich) = *solutus* (Holmgren). Orig. desig.

Place in Catalog on page 303 after *Coelichneumon* Thomson.

\**cashmani* Heinrich. Yukon (Firth R., 69° 30'N, 139° 31'W).

*Coelichneumonops cashmani* Heinrich, 1958. Canad. Ent. 90 (12): 740. ♀.

*occidentalis* (Roman), changed status. Que., Baffin Is. Elevated to specific rank (*teste* Heinrich, 1961 (1960), Pt. I, pp. 83, 85. Transf. from *Coelichneumon*, Sup. 1, p. 52 (*teste* Heinrich, *loc. cit. supra*).

\**solutus* (Holmgren). Que.

*Ichneumon solutus* Holmgren, 1895. Ichn. Suecica I, p. 145. ♀.

\**Coelichneumonops vockerothi* Heinrich, 1958. Canad. Ent. 90 (12): 739. ♂, ♀. Syn. (*teste* Heinrich, 1961 (1960), Pt. I, [vol. 92]: 82, 83).

\**walkleyae* Heinrich. B. C. (Vancouver).

*Coelichneumonops walkleyae* Heinrich, 1961 (1960). Pt. I. Canad. Ent. Sup. 15 [vol. 92]: 83, 85. ♀.

**Genus PROTICHNEUMON Thomson, p. 304**

\**effigies* Heinrich. Newfoundland to B. C., Maine, Pa., Mich., Kans., S. Dak., Colo., Mont.

*Protichneumon effigies* Heinrich, 1961 (1960). Pt. I. Canad. Ent. Sup. 15 [vol. 92]: 22, 26. ♂, ♀.

*grandis grandis* (Brullé), changed status. Canad. and Transit. Zones. Reduced to subsp. rank (*teste* Heinrich, 1961 (1960), Pt. I, pp. 22, 25).

*Ichneumon regnatrix* Cresson. Remove from syn. A valid subsp.

*grandis regnatrix* (Cresson). Pa., Del., Ga., Fla., La., Kans. A valid subsp. (*teste* Heinrich, 1961 (1960), Pt. I, pp. 22, 25).

\**grandis victoriae* Heinrich. B. C.

*Protichneumon grandis victoriae* Heinrich, 1961 (1960). Pt. I. Canad. Ent. Sup. 15 [vol. 92]: 22, 25. ♂, ♀.

\**polytropus* Heinrich. N. C. (Boardman).

*Protichneumon polytropus* Heinrich, 1961 (1960). Pt. I. Canad. Ent. Sup. 15 [vol. 92]: 22, 27. ♂ [misspelled *polytropos* in key].

**Genus AMBLYJOPPA Cameron, p. 340**

*magna* (Cresson).

Taxonomy: Heinrich, 1961 (1960), Pt. I, p. 27.

**\*Genus CATADELPHOPS Heinrich**

*Catadelphops* Heinrich, 1962. Pt. VII. Canad. Ent. Sup. 29: 863.

Type: *Trogus buccatus* Cresson. By monotypy and orig. desig.

Place on p. 304 of Catalog after *Amblyjoppa* Cameron.

*buccatus* (Cresson). Transf. from *Catadelphus* Wesmael (*teste* Heinrich, 1962, Pt. VII, p. 864).

**\*Genus NEAMBLYJOPPA Heinrich**

*Neamblyjoppa* Heinrich, 1962. Pt. VII. Canad. Ent. Sup. 29: 865.

Type: *Neamblyjoppa nasuta* Heinrich. By monotypy and orig. desig.

Place on p. 304 of Catalog after \**Catadelphops* Heinrich.

\**nasuta* Heinrich. Ariz.

*Neamblyjoppa nasuta* Heinrich, 1962. Pt. VII. Canad. Ent. Sup. 29: 866. ♀.

**Tribe TROGINI**

Revision: Heinrich, 1962. Pt. VII, Canad. Ent. Sup. 29: 807-860.

**\*Subtribe CALLAJOPPINA**

**Genus CATADELPHUS Wesmael, p. 304**

*atrox* (Cresson). Okla. Host: *Proserpinus juanita* Stkr.

*atrox* var. *marginipennis* (Cresson). Elevated to specific rank.

*marginipennis* (Cresson), new status. Alta.

*Catadelphus atrox* var. *marginipennis* (Cresson) of Catalog.

\**ochraceus* Heinrich. Okla.

*Catadelphus ochraceus* Heinrich, 1962. Pt. VII. Canad. Ent. Sup. 29: 811, 813. ♂.

*semiruber* Hopper. B. C., Wyo.

**\*Genus CALLAJOPPA Cameron**

*Callajoppa* Cameron, 1903. Entomologist 36: 236.

Type: (*Callajoppa bilineata* Cameron) = [*Ichneumon*] *cirro-gaster* (Schrank). By monotypy.

Place after *Catadelphus* Wesmael, p. 304.

\**cirrogaster* (Schrank). ?Ont.; Europe; Japan.

*Ichneumon cirrogaster* Schrank, 1781. Enum. Ins. Austriae, p. 348.

\**Ichneumon lutorius* Fabricius, 1787. Mant. Ins. I, p. 262.

\**Callajoppa bilineata* Cameron, 1903. Entomologist 36: 236. ♀.

Taxonomy: Heinrich, 1962, Pt. VII, pp. 814-815.

**Genus GNAMPTOPELTA Hopper, p. 304**

*obsidianator obsidianator* (Brullé). Que., Man.

**Genus TRICYPHUS Kriechbaumer, pp. 304-305**

*ater* Hopper. Fla.

\**elegans floridanus* Heinrich. Fla.

*Tricyphus elegans floridanus* Heinrich, 1962. Pt. VII. Canad. Ent. Sup. 29: 840, 842. ♂.

**Genus TMETOGASTER Hopper**

(= *Conocalama* subgenus *Tmetogaster* Hopper, p. 305)

Raised to generic rank (*teste* Heinrich, 1962, Pt. VII, p. 836).

*nubilipennis* (Haldemann). Maine. Host: ?*Ampelocaea myron* Cresson.

**Genus CONOCALAMA Hopper**

(= *Conocalama* subgenus *Conocalama* Hopper, pp. 305-306)

Raised to generic rank (*teste* Heinrich, 1962, Pt. VII, p. 815).

*nolteri* (Cresson), changed status. Raised to sp. rank (*teste* Heinrich, 1962, Pt. VII, pp. 816, 818, 827; ♀ discussed).

*brullei* (Cresson). Hosts: *Dolba hylaeus* Drury, *Paonias astylus* Drury, *P. myops* S. & A., *Phlegethontius sexta* Joh.

*canadensis* (Provancher). Atlantic to Cont. Divide in Transit., U. Austr. Zones. Hosts: *Paonias myops* S. & A. Removed from syn. of *C. copei* (Cresson); a valid sp. (*teste* Heinrich, 1959, Ent. News 70 (8): 206).

*Conocalama copei* var. *nigrocinctus* (Hasey) (syn. *teste* Heinrich, 1962, Pt. VII, p. 822).

\**catalinarum* Heinrich. Ariz. (Mt. Lemmon).

*Conocalama catalinarum* Heinrich, 1957. Canad. Ent. 89 (7): 334. ♂.

Taxonomy: Heinrich, 1962, Pt. VII, pp. 817, 835-836.

*copei copei* (Cresson), changed status. Reduced to subsp. rank (*teste* Heinrich, 1962, Pt. VII, p. 821).

*Trogus canadensis* Provancher. Remove from syn. Valid sp.

\**copei heteropteryx* Heinrich. Maine, Que., Ont.

*Conocalama copei heteropteryx* Heinrich, 1962. Pt. VII. Canad. Ent. Sup. 29: 816, 822. ♂, ♀.

*copei* var. *nigrocinctus* (Provancher). Syn. of *canadensis* (Provancher).

*fuscalata* Hopper. Ont.

\**manitobae* Heinrich. Man. (Aweme).

*Conocalama manitobae* Heinrich, 1962. Pt. VII. Canad. Ent. Sup. 29: 817, 834. ♂.

*mellosa mellosa* (Cresson). N. Mex., Colo. Transf. from subsp. of *occidentalis* (Cresson).

Taxonomy: Heinrich, 1962, Pt. VII, pp. 817, 818, 829, 830 (relationships discussed; ♂ neallotype).

**mellosa rileyi** (Cresson), changed status. Reduced to subsp. rank (*teste* Heinrich, 1962, Pt. VII, pp. 817, 818, 830; ♂ neallotype).

**occidentalis** (Cresson), changed status. West. No. Amer. Host: *Smerinthus cerisyi* Kby. Raised to sp. rank (*teste* Heinrich, 1962, Pt. VII, p. 823).

**?Conocalama occidentalis occidentalis** var. **luteata** Hopper (syn. *teste* Heinrich, 1962, Pt. VII, p. 823).

Taxonomy: Heinrich, 1962, Pt. VII, pp. 823-825.

**occidentalis bolteri** (Cresson). Given sp. rank.

**Trogus quebecensis** Provancher. A valid species.

**occidentalis mellosa** (Cresson). Now recognized as **mellosa mellosa** (Cresson).

**quebecensis** (Provancher). N. S., Maine, Que., Ont., Minn., Man., B. C. Host: ?*Eacles imperialis* Drury. Removed from syn. of **occidentalis bolteri** (Cresson); a valid sp. (*teste* Heinrich, 1962, Pt. VII, pp. 817, 818, 826).

**rileyi** (Cresson). Subsp. of **mellosa** (Cresson).

### \*Subtribe TROGINA

#### Genus MACROJOPPA Kriechbaumer, p. 306

Taxonomy: Heinrich, 1962, Pt. VII, pp. 845-846 (doubts of gen. syn. expressed).

#### Genus TROGUS Panzer, p. 306

**Trogus** Panzer. Under type citation change [*Ichneumon*] var. **coerulator** (Fabricius) to: [*Ichneumon*] **lapidator coerulator** (Fabricius).

**Dinotomus** Foerster. Change type citation to:

Type: *Ichneumon lapidator* Fabricius. Desig. by Ashmead in Smith, 1900.

**Psilomastax** Tischbein. Remove from syn. A valid genus containing no Nearctic spp. (*teste* Heinrich, 1962, Pt. VII, pp. 844, 846, in text).

**edwardsii** Cresson.

Taxonomy: Heinrich, 1962, Pt. VII, pp. 848, 852-853 (prob. subsp.).

**flavipennis** Cresson. Wyo.

**fulvipes** Cresson. North. Transit. Zone.

\***lapidator coerulator** (Fabricius). Yukon; Europe. *T. lapidator lapidator* (Fab.) is Palaearctic. Host: *Papilio machaon* L.

**Ichneumon coerulator** Fabricius, 1804. Systema Piezatorum, p. 68, no. 79.

Taxonomy: Heinrich, 1962, Pt. VII, pp. 847, 848-849.

**pennator** (Fabricius). Host: *Papilio polyxenes asterias* Putnam.

\***Dinotomus vulpinus** var. **nigrithorax** Strand, 1912. Arch. Naturg. Jahrg. 78, Abt. A (6): 74. ♂. (Syn. *teste* Townes, 1961. Ent. Soc. Wash. Proc. 63 (2): 105.)

Biology: Heinrich, 1962, Pt. VII, pp. 849, 850 (notes on hosts).

### Subfamily LISSONOTINAE

#### Tribe GLYPTINI

#### Genus GLYPTA Gravenhorst, pp. 306-309

**fumiferanae** (Viereck). Utah, Colo., Ariz. Hosts: *Dioryctria reniculella* (Grt.), *Sciaphila duplex* (Wlsh.).

Biology: Dodge, 1961. Canad. Ent. 93 (3): 222-228.

Tribe LISSONOTINI

Genus ALLOPLASTA Foerster, p. 310

(= *Amersibia* of Catalog, p. 310)

*Amersibia* Auctt., nec Foerster (see *Lampronota* Curtis).

\**Tryscampe* Foerster, 1868. Naturh. Ver. Rheinlande Verh. 25: 207 (syn. by Townes, Townes, and Gupta, 1961, p. 206; Perkins, 1962, p. 461).

Type: *Ichneumon piceator* Thunberg. Desig. by Perkins, 1962.

\**Trichopimpla* Cameron, 1903. Ztschr. f. Hym.-Dipt. 3 (5): 303 (syn. teste Morley, 1913, Fauna Brit. India, Hym. vol. 3, pt. 1, p. 222; Townes, Townes and Gupta, 1961, p. 205-206).

Type: *Trichopimpla pilosa* Cameron. By monotypy.

*bullata* (Davis), n. comb. Transf. from *Amersibia* Foerster, p. 310; change vol. no. of bibliog. ref. from 21 to 22.

*superba* (Provancher), n. comb. Transf. from *Amersibia* Foerster, p. 310.

Genus *Amersibia* Foerster, p. 310

*Amersibia* Foerster. Add pp. 214, 218 to bibliog. citation. Change type desig. to *Ichneumon catenator* Panzer. By substitution of *Amersibia* for *Meniscus* Schiødte. *Amersibia* was proposed by Foerster as a new name for *Meniscus* Schiødte which he considered preocc. by the plant name *Meniscium* (teste Foerster's handwritten MS; Schmiedeknecht, 1888, Zool. Jahrb. 3 (3): 439). Syn. of *Lampronota* Curtis, p. 311.

*Alloplasta* Foerster. Remove from syn. A valid genus (teste Perkins, 1962, p. 403).

*bullata* (Davis). Transf. to *Alloplasta* Foerster, p. 310.

*superba* (Provancher). Transf. to *Alloplasta* Foerster, p. 310.

Genus LAMPRONOTA Curtis, p. 311

*Meniscus* Schiødte. Delete type citation. Add: Type: *Ichneumon catenator* Panzer. Desig. by Viereck, 1914. (*Ichneumon setosus* Holmgren was not an orig. incl. sp.).

*Amersibia* Foerster. Proposed as n. name for *Meniscus* (erroneously believed preocc.).

\**Ctenopimpla* Cameron, 1899. Manchester Lit. and Phil. Soc. Mem. and Proc. 43 (3): 189. Preocc. (Syn. teste Townes, Townes, and Gupta, 1961, p. 204.)

Type: *Ctenopimpla albomaculata* Cameron. By monotypy.

\**Adelopimpla* Schulz, 1906. Spolia Hym., p. 116. N. name for *Ctenopimpla*.

LISSONOTA subgenus LISSONOTA Gravenhorst, pp. 311-312

*hibrevicincta* (Davis). Change vol. no. in bibliog. ref. from 21 to 22.

*occidentalis* (Viereck). Change page no. in bibliog. ref. from 83 to 84.

Genus PIMPLOPTERUS Ashmead, pp. 312-314

*argyresthia* Walley. N. S., N. B., Que., Ont. Host: *Argyresthia laricella* Kft.

*Pimplopterus argyresthia* Walley, 1961. Canad. Ent. 93 (1): 1. ♂, ♀.

*davisi* Townes.

*Lampronota angusta* Davis. Change vol. no. in bibliog. ref. from 17 to 22.

*electra* (Viereck). Change page no. in bibliog. ref. from 83 to 84.

*fenellus* (Viereck).

*Lissonota fenella* Viereck. Change page no. in bibliog. ref. from 82 to 83.

*Harrimaniella minor* Viereck. Change page no. in bibliog. ref. from 86 to 87.

*palloranus* (Davis). Change vol. no. in bibliog. ref. from 21 to 22.

*parvus* (Cresson). Host: *Dioryctria reniculella* (Grt.).

*sexcinctus* (Ashmead). Does not belong in *Pimplopterus*; a revisionary study of Lissonotini necessary for placement.

Genus **CRYPTOPIMPLA** Taschenberg, pp. 314–315

*Xenacis* Foerster. Transf. from syn. of *Cylloceria* Schiødte, p. 342 (*teste* Perkins, 1962, p. 462).

Genus **Asphragis** Foerster, p. 315

*Asphragis* Foerster. Type-species misdet. Transf. to syn. of *Cylloceria* Schiødte, p. 342.

*michiganensis* (Davis). Transf. to \**Campocinet*a Schmiedeknecht.

*mirabilis* (Cresson). Transf. to \**Campocinet*a Schmiedeknecht.

*subflavus* (Davis). Transf. to \**Campocinet*a Schmiedeknecht.

\*Genus **CAMPOCINETA** Schmiedeknecht

*Asphragis* of authors not of type-species (misdet. by authors).

*Campocinet*a Schmiedeknecht, 1900. Zool. Jahrb. Abt. f. System. 13 (4): 301, 306, 309, 343. (See Townes, Townes, and Gupta, 1961, p. 206).

Type: *Campocinet*a *varicornis* Schmiedeknecht. By monotypy.

Replaces *Asphragis* of authors, p. 314.

*michiganensis* (Davis), n. comb. Transf. from *Asphragis* Foerster, p. 315.

*mirabilis* (Cresson), n. comb. Transf. from *Asphragis* Foerster, p. 315.

*subflavus* (Davis), n. comb. Transf. from *Asphragis* Foerster, p. 315.

Genus **SYZEUCTUS** Foerster, p. 315

*Diceratops* Foerster. In type citation after "Included" add, and designated.

*Syzeuctus* Foerster. In type citation after "Included" add, and designated.

*Syzeucta* Thomson. Delete type citation. Add: Emend.

\**Leptoglyphis* Brèthes, 1927. Ent. Mitt. 16: 319 (syn. *teste* Townes, Townes, and Gupta, 1961, p. 207).

Type: *Leptoglyphis minasensis* Brèthes. By monotypy.

\**Paratanera* Rao, 1953. Indian Forest Rec. (n. s.) Ent. 8 (8): 171 (syn. *teste* Townes, Townes, and Gupta, 1961, p. 207).

Type: *Paratanera indica* Rao. Orig. design.

Tribe **BANCHINI**

Genus **EXETASTES** Gravenhorst, pp. 316–319

\**Semnophrys* Foerster, 1868. Naturh. Ver. Rheinlande Verh. 25: 158 (syn. *teste* Perkins, 1962, p. 451).

Type: *Exetastes notatus* Holmgren. Design. by Perkins, 1962.

\**Icyona* Cameron, 1903. Ztschr. Syst. Hym. Dipt. 3: 340 (syn. *teste* Townes, Townes, and Gupta, 1961, p. 210).

Type: (*Icyona rufipes* Cameron) = *Exetastes cameroni* Townes. By monotypy.

\**Rhynchexetastes* Cameron, 1906. So. African Mus. Ann. 5: 102 (syn. *teste* Townes, Townes, and Gupta, 1961, p. 210).

Type: *Rhynchexetastes violaceipennis* Cameron. By monotypy.

*Tegona* Morley. Delete question-mark. Change type citation to: (*Tegona rufipes* Morley) = *Exetastes cameroni* Townes.  
*pictus* Cushman. Ariz.

Subfamily CTENOPELMATINAE

(= *Scolobatinae* of Catalog and *Mesoleiinae* of Sup. 1)

Tribe EUCERATINI

Genus EUCEROS Gravenhorst, pp. 321-322

\**Tautozelus* Foerster, 1868. Naturh. Ver. Rheinlande Verh. 25: 212 (syn. *teste* Perkins, 1962, p. 457).

Type: (*Euceros egregius* Holmgren) = *Euceros serricornis* Haliday. Desig. by Perkins, 1962.

*frigidus* Cresson. Que., N. H., N. Y. Hosts: *Endasys subclavatus* (Say), *Lamachus* sp., *Neodiprion lecontei* (Fitch), *N. pratti banksianae* Roh., *Olesicampe lophyri* (Riley).

Biology: Finlayson, 1960. Canad. Ent. 92 (1): 34-36.—Tripp, 1961, Canad. Ent. 93 (1): 40-58.

*thoracicus* Cresson. B. C. Host: *Melanolophia imitata* Wlkr.

Tribe CATOGLYPTINI

(= *Pionini* of Catalog)

Genus TREMATOPYGUS Holmgren, p. 322

\**Amorphognathon* Foerster, 1868. Naturh. Ver. Rheinlande Verh. 25: 203 (syn. *teste* Perkins, 1962, p. 404).

Type: *Tryphon melanocerus* Gravenhorst. Inc. by Kriechbaumer, 1897.

*Epachthes* Foerster. Preocc. Remove from syn. (An isogenotypic syn. of *Azelus* Foerster with no Nearctic spp.).

\**Rhigelus* Foerster, 1868. Naturh. Ver. Rheinlande Verh. 25: 208 (syn. *teste* Perkins, 1962, p. 449).

Type: (*Trematopygus kriechbaumeri* Thomson) = *melanocerus* (Gravenhorst). Desig. by Perkins, 1962.

\**Campoporus* Foerster, 1868. Naturh. Ver. Rheinlande Verh. 25: 210 (syn. *teste* Perkins, 1962, p. 412).

Type: *Ichneumon dictator* Thunberg. Desig. by Perkins, 1962.

*Epachtus* Thomson. Emend. Remove from syn.

Genus PION Schiedte, pp. 323-324

*Sympherta* Foerster. In type citation change "desig." to: Incl. by Davis, 1897.

?*Stiphrosomus* Foerster. Perkins, 1962, pp. 453, 458, considers this a syn. of *Trapezocora* Foerster.

\*?*Trapezocora* Foerster, 1868. Naturh. Ver. Rheinlande Verh. 25: 208. Considered valid genus by Perkins, 1962, p. 458.

Type: *Mesoleptus antilope* Gravenhorst. Desig. by Perkins, 1962.

\*?*Atrestes* Foerster, 1868. Naturh. Ver. Rheinlande Verh. 25: 209. Considered a syn. of *Trapezocora* by Perkins, 1962, pp. 408, 458.

Type: \**Catoglyptus (Stiphrosomus) sulcatus* Thomson. Desig. by Perkins, 1962.

\*?*Campogenes* Foerster, 1868. Naturh. Ver. Rheinlande Verh. 25: 209.

Type: (*Tryphon antilope* Gravenhorst) = *Trapezocora antilope* (Gravenhorst). Desig. by Perkins, 1962.

**?Eustiphrosomus** Hincks.

A revision will probably show several segregates here, or a single heterogeneous group.

## Tribe CTENOPELMATINI

Genus **CTENOPELMA** Holmgren, pp. 324, 325

Several undescribed Nearctic spp. belong here.

**XENOSCHESIS** subgenus **XENOSCHESIS** Foerster, p. 325

**Polycinetus** Thomson. Delete type citation. Transf. to syn. of subg. **Polycinetis** Foerster as emend.

**XENOSCHESIS** subgenus **POLYCINETIS** Foerster, p. 325

**Polycinetus** Thomson. Emend. Preocc. Transf. from syn. of subg. **Xenoschesis** Foerster.

## Tribe MESOLEIINI

Genus **PERILISSUS** Holmgren, pp. 326–327, Sup. 1, p. 55

\***Ichnaeops** Foerster, 1868. Naturh. Ver. Rheinlande Verh. 25: 197.

Type: **Perilissus lutescens** Holmgren. Incl. and desig. by Perkins, 1962.

\***Exacrodus** Foerster, 1868. Naturh. Ver. Rheinlande Verh. 25: 210 (syn. *teste* Townes, Townes, and Gupta, 1961, pp. 213–214).

Type: (**Exacrodus populans** Morley) = **cingulator** (Morley). Incl. by Morley, 1913.

\***Pseudochorus** Rao, 1953. Indian Forest Rec. (n.s., Ent.) 8: 195. (syn. *teste* Townes, Townes, and Gupta, 1961, pp. 213–214).

Type: (**Pseudochorus kuriani** Rao) = **cingulator** Morley. Orig. desig.

Genus **LABROSSYTA** Foerster, p. 328

**Labrossyta** Foerster. Change type citation to: **Ichneumon scotopterus** Gravenhorst. Incl. by Thomson, 1894.

\***Labrossytus** Thomson, 1894. Opusc. Ent., fasc. 18, p. 2001. Emend.

Genus **Laphyroscoptes** Foerster, p. 328

**Laphyroscoptes** Foerster. Delete type citation. Syn. of **Lathrolestes** Foerster, p. 328.

**capitatus** (Cresson). Transf. to \***Nanium** Townes, n. gen.

**longipes** (Davis). Transf. to \***Zaplethocornia** Schmiedeknecht.

Genus **LATHROLESTES** Foerster, pp. 328–329

**Lathrolestes** Foerster. Change type citation to: **Tryphon clypeatus** Zetterstedt. Desig. by Viereck, 1914. (See Perkins, 1962, p. 435.)

**Laphyroscoptes** Foerster (syn. *teste* Townes, Townes, and Gupta, 1961, pp. 214–215; Perkins, 1962, p. 434). Change type citation to: (**Tryphon gorskii** Ratzeburg) = **luteolator** Gravenhorst. Desig. by Viereck, 1914.

**Lathrolestes** Thomson. Delete type citation. Add: Emend.

**Laphyroscoptes** Thomson. Delete type citation. Add: Emend.

\*Genus **NANIUM** Townes, n. gen.

(= **Laphyroscoptes** of authors)

Type: **Tryphon capitatus** Cresson. Orig. desig.

The genus is one proposed by Townes (MS) for **Laphyroscoptes capitatus** (Cresson), invalid type desig. for **Laphyroscoptes** Foerster. His description follows:



Genus NANIUM

Front wing 3.5 to 5.4 mm. long; clypeus separated from face by an impression, its profile weakly convex and apex broadly arcuate; mandibular teeth equal; junction of occipital and hypostomal carinae some distance above base of mandible; lateral ocellus separated from eye by about 2.5 its diameter; first flagellar segment about 1.55 as long as second; mesopleurum with a median longitudinal groove on only its hind  $0.25 \pm$ ; notaulus faint and rather short, or absent. Propodeum without carinae, its profile rather weakly convex; tarsal claws short, sparsely pectinate; areolet absent; mediella strongly arched; nervellus vertical or inclivous, broken below the middle or sometimes not broken; first tergite rather short and broad, its dorsal profile weakly convex or almost flat, spiracle at the middle, its base without a dorsal pit, its dorso-lateral carina present to apex of glymma and sometimes present (but weak) between spiracle and apex; glymma rather short, deep, separated from glymma on opposite side by a translucent partition; thyridium absent; sides of tergites 2 and 3 curved under, at least in female not clearly separated from their rather narrow epipleura; male subgenital plate simple; tip of penis somewhat swollen, moderately decurved, its apex rounded; ovipositor sheath 0.35 to 0.6 as long as apical depth of abdomen, moderately wide; ovipositor straight, moderately stout, with a strong subapical dorsal notch; cercus like the head of a mushroom, much wider than long.

Type: *Tryphon capitatus* Cresson.

This is an American genus, with the type-species in the eastern part of the Nearctic Region, and an undescribed species each in Mexico and in Chile.

The generic name is from *νανιον* (puppet), in reference to the small size.

*capitatum* (Cresson), n. comb. Transf. from *Laphyroschopus* Foerster, p. 328.

\*Genus ZAPLETHOCORNIA Schmiedeknecht

*Zaplethocornia* Schmiedeknecht, 1912. Opusc. Ichn. fasc. 32, p. 2519.

Type: *Ichneumon procurator* Gravenhorst. Incl. by Schmiedeknecht, 1913.

Place on p. 329 before *Synoeetes* Foerster.

*longipes* (Davis), n. comb. Transf. from *Laphyroschopus* Foerster, p. 328 (*teste* Townes in litt.).

Genus SYNOECETES Foerster, p. 329

*Polyrhysius* Thomson. Delete type citation. Add: Emend.

\*Genus ESIGNA Perkins

(= *Gnesia* Foerster, p. 330)

*Esigna* Perkins, 1962. British Mus. (Nat. Hist.) Bul. Ent. 11 (8): 425.

New name for *Gnesia* Foerster, 1868, preocc. by Doubleday, 1848.

Type: *Gnesia caliroae* Rohwer. By substitution of *Esigna* for *Gnesia*.

*rotundata* (Davis), n. comb.

Genus PROTARCHUS Foerster, p. 330

*Otiophorus* Foerster. Remove from syn. and from Catalog. A valid genus (*teste* Perkins, 1962, p. 441) with no descr. Nearctic spp.

*Neales* Foerster. Isogenotypic syn. of preceding. Remove from Catalog.

*Protarchoides* Cushman. A revision may prove this is a distinct but closely related genus.

Genus HIMERTA Foerster, pp. 330-331

*Himerta* Foerster, 1868. Change type citation to *Euryproctus* (*Himertus*) *bisannulatus* Thomson.

*Clepsiporthus* Foerster. Change type citation to (*Mesoleptus*? *rubiginosus* Davis) = *Himerta rubiginosa* (Cresson).

\**Dolioctonus* Foerster, 1868. Naturh. Ver. Rheinlande Verh. 25: 212.

Type: *Ichneumon defectivus* Gravenhorst. Incl. and desig. by Perkins, 1962.

*Himertus* Thomson. Delete type citation and add: Emend.

\**Daisetsuzania* Uchida, 1930. Hokkaido Univ., Fac. Agr., Jour. 25: 289 (syn. *teste* Townes, 1957, Proc. Ent. Soc. Wash. 59 (3): 104).

Type: *Daisetsuzania albifrons* Uchida. By monotypy and orig. desig.

*annulata* (Davis). Change vol. no. in bibliog. ref. from 21 to 22.

Genus *MESOLEIUS* Holmgren, pp. 331–334, Sup. 1, pp. 55–56

*Alexeter* Foerster. Emend. type citation as follows: (*Mesoleptus* (*Alexeter*) *ruficornis* Gravenhorst) = *sectator* (Thunberg), 1822. Perkins, 1962, p. 403, considers this a valid genus.

*Lagarotis* Foerster. Considered a valid genus by Perkins, 1962, p. 434.

\**Zemiophron* Foerster, 1868. Naturh. Ver. Rheinlande Verh. 25: 206 (syn. *teste* Townes, Townes, and Gupta, 1961, p. 215). Perkins, 1962, p. 464, considers this a syn. of *Alexeter* Foerster.

Type: *Mesoleius laevissimus* Strobl. Desig. by Perkins, 1962.

*Oneista* Foerster. Perkins, 1962, p. 440, considers this a syn. of *Lagarotis* Foerster.

\**Dysantes* Foerster, 1868. Naturh. Ver. Rheinlande Verh. 25: 207 (syn. *teste* Townes, Townes, and Gupta, 1961, p. 215). Considered syn. of *Lagarotis* Foerster by Perkins, 1962, p. 419.

Type: *Ichneumon debitor* Thunberg. Desig. by Perkins, 1962.

*Aeolometis* Foerster. (Valid genus, *teste* Perkins, 1962, p. 402).

*Scopesis* Foerster. (Valid genus, *teste* Perkins, 1962, p. 451). Add to type citation: = *bicolor* (Gravenhorst).

*Tachyporthus* Foerster. Considered syn. of *Aeolometis* Foerster by Perkins, 1962, p. 456.

\**Scoparches* Foerster, 1868. Naturh. Ver. Rheinlande Verh. 25: 211 (syn. *teste* Townes, Townes, and Gupta, p. 215). Considered syn. of *Scopesis* Foerster by Perkins, 1962, p. 451.

Type: *Tryphon bicolor* Gravenhorst. Desig. by Perkins, 1962.

\**Allocritus* Foerster, 1868. Naturh. Ver. Rheinlande Verh. 25: 211 (syn. *teste* Townes, Townes and Gupta, p. 215; Perkins, 1962, p. 403).

Type: *Mesoleius tenuiventris* Holmgren. Desig. by Perkins, 1962.

*Spudaea* Foerster. Considered syn. of *Rhinotorus* Foerster by Perkins, 1962, p. 452. Change type citation to: *Tryphon leucostomus* Gravenhorst. Desig. by Viereck, 1914. (See Perkins, 1962, p. 452.)

\**Rhinotorus* Foerster, 1868. Naturh. Ver. Rheinlande Verh. 25: 211 (syn. *teste* Townes, Townes, and Gupta, p. 215). Considered valid genus by Perkins, 1962, p. 450.

Type: *Spudaea longicornis* Schmiedeknecht. Desig. by Perkins, 1962.

\**Campodorus* Foerster, 1868. Naturh. Ver. Rheinlande Verh. 25: 213 (syn. *teste* Townse, Townes, and Gupta, 1961, p. 215; Perkins, 1962, p. 412).

Type: *Mesoleius melangaster* Holmgren. Desig. by Perkins, 1962.

*Spudaeus* Thomson. Delete type citation. Add: Emend.

*Lagarotus* Thomson. Delete type desig. Add: Emend.

*Scopesus* Thomson. Delete type desig. Add: Emend.

*Aelometis* Thomson. Delete type desig. Add: Emend.

A revision is necessary before the Nearctic species can be placed in the segregates comprising this genus.

*nigropictus* (Davis).

*Lampronota nigropicta* Davis. Change vol. no. in bibliog. ref. from 21 to 22.

*tenthredinis* Morley. Pa., Mich.

Biology: Finlayson, 1960. Canad. Ent. 92 (12): 933-934 (larval).—  
Drooz, 1961. Canad. Ent. 93 (9): 804-807 (host immunity).

Genus *LAMACHUS* Foerster, pp. 334-335

*angularius* (Davis). Idaho. Host: *Neodiprion* sp. nr. *scutellatus* Roh.

*contortionis* Davis. Ky. Host: *Neodiprion lecontei* (Fitch).

Genus *SAOTIS* Foerster, p. 335

*Saotus* Thomson. Add 'Emend.' after bibliog. ref. Delete type desig.

### Tribe EURYPROCTINI

Genus *SYNOMELIX* Foerster, p. 335

*Zemiophora* Foerster. In type citation change "Included by Dalla torre, 1901" to: Included by Thomson, 1894. Perkins, 1962, p. 464, considers this a valid genus.

*Synomelix* Foerster. Change type citation to: (*Synomelix sieboldii* Kriechbaumer) = *Synomelix albipes* (Gravenhorst) (teste Perkins, 1962, p. 456).

*Zemiophorus* Thomson. Delete type citation. Add: Emend.

Genus *Dialges* Foerster, pp. 335-336

*Dialges* Foerster. Change type citation to: *Tryphon vepretorum* Gravenhorst. Incl. by Kriechbaumer, 1897 (June); Davis' species was incl. later. Syn. of *Otiophorus* Foerster (teste Perkins, 1962, pp. 417, 441).

Delete from catalog. No Nearctic spp. Transf. Nearctic spp. to *Pantorhaestes* Foerster.

Genus *PANTORHAESTES* Foerster

(= *Dialges* of Catalog, p. 335)

*Trophoctonus* Foerster. Transf. from syn. of *Dialges* Foerster.

*Pantorhaestes* Foerster. Removed from syn. of *Dialges* Foerster as a valid genus (teste Perkins, 1962, pp. 443, 460).

*frontalis* (Davis), n. comb. Transf. from *Dialges* Foerster, p. 336.

*rivalis* (Davis), n. comb. Transf. from *Dialges* Foerster, p. 336.

*tricolor* (Davis), n. comb. Transf. from *Dialges* Foerster, p. 336.

Genus *MESOLEPTIDEA* Viereck, p. 336

*decens* (Cresson). Wis. Host: *Archips* sp.

Genus *POLYTERUS* Foerster, p. 336

*Sychnoportus* Foerster, 1868, p. 208 (as *Sychnoporthus*, p. 220). Change date in type citation to 1898 (1897).

Genus *SYNDIPNUS* Foerster, p. 337

*Polypystis* Foerster. Perkins, 1962, p. 447, considers this a valid genus. If so treated, most (all?) of the Nearctic spp. will go in *Polypystis*.

Genus *HYPAMBLYS* Foerster, p. 337

\**Apystus* Foerster, 1868. Naturh. Ver. Rheinlande Verh. 25: 212 (syn. teste Perkins, 1962, p. 406).

Type: *Tryphon albopictus* Gravenhorst. Desig. by Perkins, 1962.

\**Lathrophagus* Foerster, 1868. Naturh. Ver. Rheinlande Verh. 25: 213 (syn. teste Perkins, 1962, p. 435).

Type: *Mesoleius buccatus* Holmgren. Desig. by Perkins, 1962.

Genus **PHOBETES** Foerster  
(= *Ipoctoninus* Hincks, p. 338)

**Phobetetes** Foerster, 1868 (nec Auctt.).

Type: *Tryphon fuscicornis* Holmgren. Desig. by Viereck, 1914, as type of **Phobetus** Thomson, emend.

**Ipoctonus** Foerster. Preocc. (Syn. *teste* Townes, Momoi, and Townes, 1965, p. 268.)

**Philotymma** Foerster, 1868. Naturh. Ver. Rheinlande Verh. 25: 209.

Type: *Ichneumon chrysostomus* Gravenhorst. Desig. by Townes, Momoi, and Townes, 1965. An earlier desig. by Perkins, 1962 of *Ichneumon leptocerus* Gravenhorst is invalid because that sp. is not one of the four (two through generic syn.) included by Townes, Townes, and Gupta, 1961, p. 217, who made no type desig. then.

\***Phobetus** Thomson, 1889. Opusc. Ent., fasc. 13 p. 1430. Emend.

\***Griphodes** Kriechbaumer, 1894. Termesz. Füzetek 17: 57 (syn. of *Philotymma* Foerster *teste* Townes, Townes, and Gupta, 1961, p. 217).

Type: *Griphodes caligatus* Kriechbaumer. By monotypy.

\***Phobetellus** Hincks, 1944. Proc. Roy. Ent. Soc. London (B) 13: 34. N. name for **Phobetus**.

**Ipoctoninus** Hincks. N. name.

Perkins, 1962, stated that *Philotymma* Foerster was a new synonym of *Phobetetes* Foerster. As first reviser his choice is valid, even though Townes, Momoi, and Townes, 1965, use the name *Philotymma* for the genus.

**egregia** (Davis), n. comb.

**striata** (Davis), n. comb.

**unicolor** (Provancher), n. comb.

Genus **HYPERALLUS** Foerster, p. 338

\***Gastroporus** Foerster, 1868. Naturh. Ver. Rheinlande Verh. 25: 206.

Type: *Hyperallus caliroae* Viereck. Incl. and desig. by Perkins, 1962.

Genus **HADRODACTYLUS** Foerster, pp. 338-339

\***Dizemon** Foerster, 1868. Naturh. Ver. Rheinlande Verh. 25: 199.

Type: *Mesoleptus typhae* (Fourcroy). Incl. by Kriechbaumer, 1891.

**Zemiodes** Foerster. Change type citation to: *Mesoleptus (Zemiodes) erythropus* Kriechbaumer. Desig. by Perkins, 1962.

\***Narcopoea** Foerster, 1868. Naturh. Ver. Rheinlande Verh. 25: 204.

Type: *Ichneumon typhae* Fourcroy. Incl. by Kriechbaumer, 1891.

Genus **EURYPROCTUS** Holmgren, pp. 339-340

**Euryproctus** Holmgren. In type citation, replace "Desig. by Viereck, 1912" with: Desig. by Thomson, 1894.

**bituminosus** Davis. Mass., Minn., Idaho.

Tribe **OXYTORINI**

(= *Callidiotini* of Catalog)

**OXYTORINA** was used by Kerrich in 1939 for this supergeneric category.

Genus **OXYTORUS** Foerster  
(= *Callidiotes* Foerster, p. 340)

**Delolytus** Foerster. Syn. Change type citation to: (*Atractodes varicornis* Holmgren) = *luridator* (Gravenhorst).

**Callidiotes** Foerster (syn. *teste* Meyer, 1936, Tabl. anal. Faune URSS (21) v. 5, p. 147). Change type citation to: (*Mesoleptus coxator*

Gravenhorst) = *luridator* (Gravenhorst) (teste Pfankuch, 1906, Ztschr. syst. Hym. Dipt. 6: 81; Perkins, 1962, p. 411).

*Oxytorus* Foerster. Selected as valid name by first reviser (Meyer, 1936, Tabl. anal. Faune URSS (21) v. 5, p. 147).

\**Pantoporthus* Foerster, 1868. Naturh. Ver. Rheinlande Verh. 25: 209.  
Type: *Ichneumon luridator* Gravenhorst. Desig. by Perkins, 1962.

*Paracanidia* Viereck. Syn.

*Prosmoridaea* Cushman. Syn.

*albopleuralis* (Provancher), n. comb.

*antennatus* (Cresson). Va. Placed in *Oxytorus* by Dalla Torre, 1901. Cat. Hym., v. 3 (Pt. 1), p. 352.

*Exolytus concamerus* Davis. Transf. from **Alphabetic List of Unplaced Species**, p. 408. N. syn.

*elongata* (Davis), n. comb.

### Subfamily ORTHOPELMATINAE

Genus ORTHOPELMA Taschenberg, p. 341

*californicum* Ashmead. B. C., Wash., Oreg., Idaho. Hosts: *Diastrophus kincaidii* Gill.; gall on thimbleberry.

*mediator* (Thunberg). Ill., N. Dak., Colo., Wash. Hosts: *Diplolepis mayri* (Schlecht.); *D. multispinosa* (Gill.).

### \*Subfamily MICROCLEPTINAE

(= *Plectiscinae* of authors and Catalog, pp. 341-345, Sup. 1, p. 56)

Townes selected the name *Microleptinae*, from *Microleptes*, the oldest generic name, for *Plectiscinae* of authors. Unfortunately, *Microleptes* is a *lapsus calami* for *Microcleptes*. In Gravenhorst's original description, the Greek word μικροκλεπτης was incorrectly spelled μικρολεπτης and transliterated from the latter, but the meaning given was for the former, "furem rerum minutarum significante, quia hoc insectum minutum forsan non nisi larvas insectorum parvorum aggreditur." Paragraphs (a) (ii) and (c) of Article 32 of the International Rules apply here (see also Hopper, 1959. Ent. Soc. Wash. Proc. 61 (4): 166).

Genus CYLLOCERIA Schiedte, p. 342

*Asphragis* Foerster. Transf. from **Lissonotini** (syn. teste Perkins, 1962, p. 407; misdet. type-species).

*Xenacis* Foerster. Transf. to syn. of *Cryptopimpla* Taschenberg.

Genus DIACRITUS Foerster, p. 198

Transf. from **Neoxoridini** (= *Poemeniini* of Catalog, p. 198) (teste Cushman, 1917, Ent. Soc. Wash. Proc. 19 (1-4): 162-165; Townes, 1957, Ent. Soc. Wash. Proc. 59 (1): 16), and place provisionally in \**Microcleptinae* after *Cylloceria* Schiedte on p. 342 (Townes, loc. cit. supra). Change type citation to: (*Mesostenus rufipes* Provancher) = *mulebris* (Cresson). Desig. by Viereck, 1914. (Davis, 1895, only doubtfully referred *mulebris* to *Diacritus*; species definitely incl. by Dalla Torre, 1902, teste Perkins, 1962, p. 417.)

Genus SYMPLEICIS Foerster, p. 343

*clipeator* (Lundbeck). Transf. from **Alphabetic List of Unplaced Species**, p. 408 (teste Townes, 1961. Ent. Soc. Wash. Proc. 63 (2): 106).

Genus MEGASTYLUS Schiedte, p. 343, Sup. 1, p. 56

Correct author name, misspelled "Schidte" in Sup. 1, p. 56.

*Brephoctonus* Foerster. Transf. to syn. of *Plectiscus* Gravenhorst (= *Leipaulus* Townes, p. 348).

Genus **PROCLITUS** Foerster, p. 344

**Proclitus** Foerster. Change type citation to: (**Proclitus grandis** Foerster)  
= **praetor** Haliday (*teste* Perkins, 1962, p. 448).

Genus **MICROCLEPTES** Gravenhorst, emend.

(= **Microleptes** Gravenhorst, p. 345)

See remarks under **Microcleptinae**.

### Subfamily **ORTHOCENTRINAE**

(= **Plectiscinae** of type-genus)

Taxonomy: Townes, 1958. Ent. Soc. Wash. Proc. 60 (5): 221 (identity of type-species of **Plectiscus** Gravenhorst).

\*Genus **PLECTISCUS** Gravenhorst

(= **Leipaulus** Townes, p. 348)

**Plectiscus** Gravenhorst, 1829. Ichn. Europaea v. 2, p. 978.

Type: **Plectiscus impurator** Gravenhorst. Desig. by Westwood, 1840.

**Brephoctonus** Foerster. Syn. Transf. from syn. of **Megastylus** Schiødte, p. 343 (*teste* Townes, 1958. Ent. Soc. Wash. Proc. 60 (5): 221).

**Leipaulus** Townes (syn. *teste* Townes, *loc. cit. supra*).

**suffuscus** (Davis). Transf. from **Leipaulus** Townes (*teste* Townes, *loc. cit. supra*).

### Subfamily **DIPLAZONTINAE**

(= **Diplazoninae** of Catalog)

Revision: Dasch, 1964. Amer. Ent. Inst. Mem. 3: 1-273; 153 figs. (keys to genera and species).

Genus **DIPLAZON** Nees, pp. 348-349, Sup. 1, p. 57

\***albotibialis** Dasch. Que., Alaska.

**Diplazon albotibialis** Dasch, 1964. Amer. Ent. Inst. Mem. 3: 11, 13, 53.  
♂, ♀.

\***algidus** Dasch. Greenland and Labrador to Alaska, south to north. Que., Man., Wyo., B. C.

**Diplazon algidus** Dasch, 1964. Amer. Ent. Inst. Mem. 3: 10, 13, 51. ♂, ♀.

\***angustus** Dasch. P. E. I., N. W. T., Man., Yukon, Alaska, Calif., Huds. Zone.

**Diplazon angustus** Dasch, 1964. Amer. Ent. Inst. Mem. 3: 10, 13, 46. ♂, ♀.

**bizonarius** (Gravenhorst). Transf. to **Syrphophilus** Dasch.

\***bradleyi** Dasch. Que., Man., N. W. T., Alaska, B. C., Wash., N. Mex.

**Diplazon bradleyi** Dasch, 1964. Amer. Ent. Inst. Mem. 3: 10, 12, 37. ♂, ♀.

\***cascadensis** Dasch. Alta., Wash.

**Diplazon cascadensis** Dasch, 1964. Amer. Ent. Inst. Mem. 3: 12, 14, 49.  
♂, ♀.

\***constrictus** Dasch. Colo., Calif., Canad. Zone.

**Diplazon constrictus** Dasch, 1964. Amer. Ent. Inst. Mem. 3: 12, 14, 47.  
♂, ♀.

\***deletus deletus** (Thomson). Maine, Que. to N. W. T., Alta., Alaska south to N. C., Mich., Colo. Reduced to subsp. status (*teste* Dasch, 1964, p. 41).

- \**Bassus multicolor* Holmgren, 1856. Svensk. Vet.-Akad. Handl. (n.s.) 1: 355. ♂, ♀. Preocc.  
*Bassus deletus* Thomson, 1890. Opusc. Ent. 14: 1471. ♂, ♀.
- \**deletus fuscifemoratus* Dasch. Alaska, Yukon south to Oreg., Utah, Colo.  
*Diplazon deletus fuscifemoratus* Dasch, 1964. Amer. Ent. Inst. Mem. 3: 41, 43. ♂, ♀.
- \**flavifrons* Dasch. B. C., Wash., Calif.  
*Diplazon flavifrons* Dasch, 1964. Amer. Ent. Inst. Mem. 3: 10, 12, 39. ♂, ♀.
- \**galenensis* Dasch. Idaho (Galena Summit, Blaine Co.).  
*Diplazon galenensis* Dasch, 1964. Amer. Ent. Inst. Mem. 3: 11, 14, 45. ♂, ♀.
- ichneumonoides* (Provancher). Transf. to *Syrphophilus* Dasch.  
*Bassus scapulatus* Provancher. Transf. to syn. of *Syrphophilus tricinctorius tricinctorius* (Thunberg).
- \**insulcatus* Dasch. Alta., Wash.  
*Diplazon insulcatus* Dasch, 1964. Amer. Ent. Inst. Mem. 3: 10, 12, 58. ♂, ♀.
- laetatorius* (Fabricius).  
 Biology: Weems, 1954. Ohio Jour. Sci. 54: 45-54.—Butler and Dasch, 1958. Ariz. Agr. Exp. Sta. Tech. Bul. 135: 5-7.
- orbitalis* (Cresson). Transcont. in Huds., Canad. Transit. zones, but mostly west of 100° W. longitude.  
*Bassus orbitalis* Cresson. Deleted from syn. of *tibiatorius* (Thunberg); a valid species (*teste* Dasch, 1964, pp. 11, 13, 29).  
*Bassus cinctulus* Cresson (syn. *teste* Dasch, 1964, p. 29).  
*Bassus orbitalis* Ashmead (syn. *teste* Dasch, 1964, p. 29).
- pectoratorius* (Thunberg). Transit. Zone into Mexico.
- rufiventris* (Gravenhorst). Transf. to *Tymmophorus* Schmiedeknecht.
- scutellaris* (Cresson). Canad. Zone.
- \**tetragonus rufigaster* Dasch. Que., Mass., N. Y., Mich., N. W. T., Sask., Mont., Alta., Alaska, B. C., Wash.  
*Diplazon tetragonus rufigaster* Dasch, 1964. Amer. Ent. Inst. Mem. 3: 25, 28. ♂, ♀.
- tetragonus tetragonus* (Thunberg), changed status. Reduced to subsp. rank (*teste* Dasch, 1964, p. 25).  
 \**Bassus albicornis* Provancher, 1879. Nat. Canad. 11: 273 (*lapsus* for *albicoxus* Provancher).
- tibiatorius* (Thunberg). Remove, in *sensu strictu*, from catalog.  
*Bassus orbitalis* Cresson. Remove from syn.; a valid sp.  
*Bassus cinctulus* Cresson. Syn. of *orbitalis* (Cresson).  
*Bassus orbitalis* Ashmead. Syn. of *orbitalis* (Cresson).
- \**tibiatorius occidentalis* Dasch. Alta. to Yukon and B. C. south to Calif., Ariz., Colo. *D. tibiatorius tibiatorius* (Thunberg) occurs in Eurasia.  
*Diplazon tibiatorius occidentalis* Dasch, 1964. Amer. Ent. Inst. Mem. 3: 33, 34. ♂, ♀.
- \**wallevi* Dasch. N. W. T., Yukon, Man.  
*Diplazon walleyi* Dasch, 1964. Amer. Ent. Inst. 3: 11, 14, 23. ♂, ♀.

Genus SYRPHOPHILUS Dasch

*Zootrephes* of authors (in part) (= *Zootrephus* Thomson, emend).  
*Syrphophilus* Dasch, 1964. Amer. Ent. Inst. Mem. 3: 8, 59.  
 Type: *Bassus bizonarius* Gravenhorst. Orig. desig.

Place in *Diplazontinae* after genus *Diplazon* Nees, p. 349.

\**asperatus* Dasch. Alaska.

*Syrphophilus asperatus* Dasch, 1964. Amer. Ent. Inst. Mem. 3: 60, 71.  
♀.

*bizonarius* (Gravenhorst). Transf. from *Diplazon* Nees, Sup. 1, p. 57 (*teste* Dasch, 1964, pp. 60, 61).

*ichneumonoides* (Provancher), Transcont. in Canad. Zone. Transf. from *Diplazon* Nees, Sup. 1, p. 57 (*teste* Dasch, 1964, pp. 61, 65).

\**tricinctorius niveus* Dasch. Mass., Sask., Alta., Alaska south to S. C. and Mo.

*Syrphophilus tricinctorius niveus* Dasch, 1964. Amer. Ent. Inst. Mem. 3: 67, 70. ♂, ♀.

*tricinctorius tricinctorius* (Thunberg), changed status. N. W. T. to Alaska, south to N. C., N. Mex., Calif. in Huds., Canad., Transit. Zones. Reduced to subsp. rank (*teste* Dasch, 1964, p. 68).

*Bassus scapulatus* Provancher (syn. *teste* Dasch, 1964, p. 68).

*tricinctus* (Ashmead). N. W. T. to Alaska south to Que., Colo., Wash., in Arctic and Huds. Zones. Transf. from syn. of *Promethes elongatus* (Provancher), p. 350 (*teste* Dasch, 1964, pp. 60, 61, 72).

\*Genus **TYMMOPHORUS** Schmiedeknecht

*Zootrephe*s of authors (in part) (= *Zootrephe*s Thomson, emend.).

*Tymmophorus* Schmiedeknecht, 1913. Opusc. Ichn. 34: 2709, 2714.

Type: *Tymmophorus lacustris* Schmiedeknecht = *rufiventris* (Gravenhorst). By monotypy.

Place in *Diplazontinae* on p. 349, after \**Syrphophilus* Dasch.

\**fasciventris* Dasch. Yukon, Alaska, Colo., Huds. Zone.

*Tymmophorus fasciventris* Dasch, 1964. Amer. Ent. Inst. Mem. 3: 75, 76, 85. ♂, ♀.

\**gelidus* Dasch. N. W. T., Greenland, Arctic Zone.

*Tymmophorus gelidus* Dasch, 1964. Amer. Ent. Inst. Mem. 3: 75, 87. ♂, ♀.

*gillettii* (Davis). Transf. from *Syrphoctonus* Foerster, p. 351 (*teste* Dasch, 1964, pp. 75, 81).

\**graculus graculus* (Gravenhorst). Que. to B. C., Alaska, Yukon, south to Colo., Wyo., Wash. in Huds. and Canad. Zones; Europe.

*Bassus graculus* Gravenhorst, 1829. Ichn. Europaea 3: 339. "? ♀".

Taxonomy: Dasch, 1964. Amer. Ent. Inst. Mem. 3: 75, 76, 77.

\**graculus nigrofemoratus* Dasch. N. W. T., Alta., B. C., Colo.

*Tymmophorus graculus nigrofemoratus* Dasch, 1964. Amer. Ent. Inst. Mem. 3: 77, 79. ♂, ♀.

*rufiventris* (Gravenhorst). Transf. from *Diplazon* Nees, Sup. 1, p. 57 (*teste* Dasch, 1964, pp. 75, 76, 82).

\**thunbergi* Dasch. Que. to Mass., west to B. C., Alaska.

*Tymmophorus thunbergi* Dasch, 1964. Amer. Ent. Inst. Mem. 3: 75, 76, 79. ♂, ♀.

Genus **PROMETHES** Foerster, pp. 349–350, Sup. 1, p. 57

*Sussaba* Cameron. Remove from syn.; a valid genus, *infra*.

*cultriformis* (Ashmead). Transf. to *Sussaba* Cameron, p. 350, as subsp. of *dorsalis* (Holmgren).

*elongatus* (Provancher). Transf. to *Sussaba*, p. 350.

*Bioblapsis tricineta* Ashmead. Transf. to *Syrphophilus* Dasch, p. 349, as valid sp.

*Promethes rohveri* Brues. Transf. to *Sussaba* Cameron, p. 350, as valid sp.



- \***gravenhorsti** Dasch. Newfoundland, N. B., Mass., N. Y., Mich., Wash., B. C., Alaska.  
*Promethes gravenhorsti* Dasch, 1964. Amer. Ent. Inst. Mem. 3: 231, 232, 236. ♂, ♀.
- \***nomininguis** Dasch. Que. (Nominingue).  
*Promethes nomininguis* Dasch, 1964. Amer. Ent. Inst. Mem. 3: 231, 240. ♂, ♀.
- \***striatus** Dasch. Pa., Ohio, Colo., Alta.  
*Promethes striatus* Dasch, 1964. Amer. Ent. Inst. Mem. 3: 231, 233, 238. ♂, ♀.
- \***sulcator splendidus** Dasch. Alaska to Oreg.  
*Promethes sulcator splendidus* Dasch, 1964. Amer. Ent. Inst. Mem. 3: 233, 236. ♂, ♀.
- sulcator sulcator** (Gravenhorst), changed status. Transcont. Huds., Canad. and Transit. zones. Hosts: *Sphaerophoria robusta* Curr., *Melanostoma mellinum* (L.). Reduced to subsp. rank (*teste* Dasch, 1964, pp. 232, 233).

Genus **SUSSABA** Cameron

- A valid genus (*teste* Dasch, 1964, pp. 7, 230, 241). Transf. from syn. of *Promethes* Foerster. Place after *Promethes* Foerster, p. 350.
- \***cognata faceta** Dasch. N. S., Que., Ont. to N. Y., Mich., also N. C., Tenn., Alaska to Calif. Transit., Canad. and Arctic Zones. *S. cognata cognata* (Holmgren) occurs in Europe.  
*Sussaba cognata faceta* Dasch, 1964. Amer. Ent. Inst. Mem. 3: 264, 265. ♂, ♀.
- \***coloradensis** Dasch. Colo. (4 mi. west Cameron Pass).  
*Sussaba coloradensis* Dasch, 1964. Amer. Ent. Inst. Mem. 3: 243, 270. ♀.
- dorsalis cultriformis** (Ashmead), changed status. Alta., B. C., Yukon, Alaska. Reduced to subsp. rank (*teste* Dasch, 1964, pp. 256, 257, 259).
- \***dorsalis dorsalis** (Holmgren). Newfoundland, Labrador, N. W. T., Yukon, Alaska, south to Calif., Colo., Que., Huds., Canad., Transit. Zones.  
*Bassus dorsalis* Holmgren, 1856. Svenska Vetensk.-Akad. Handl. (n.s.) 1 (2): 353, 367. ♀.
- elongata** (Provancher). Transf. from *Promethes* Foerster, p. 350 (*teste* Dasch, 1964, pp. 245, 250).
- \***nigrithorax** Dasch. Que., Baffin Is., N. W. T., Alaska, Colo.  
*Sussaba nigrithorax* Dasch, 1964. Amer. Ent. Inst. Mem. 3: 245, 249. ♂, ♀.
- \***placita** Dasch. B. C., Calif.  
*Sussaba placita* Dasch, 1964. Amer. Ent. Inst. Mem. 3: 242, 244, 269. ♂, ♀.
- \***pulchella coriacea** Dasch. Que., Maine, Ont., south to N. C. west to Minn., Colo., also Alaska.  
*Sussaba pulchella coriacea* Dasch, 1964. Amer. Ent. Inst. Mem. 3: 246, 247. ♂, ♀.
- \***pulchella pulchella** (Holmgren). N. W. T., Que. Huds. Zone; Europe; No. India.  
*Bassus pulchellus* Holmgren, 1856. Svenska Vetensk.-Akad. Handl. (n.s.) 1 (2): 353, 366. ♂, ♀.
- \***punctiventris** (Thomson). N. S., Maine to Mass., west to Oreg., Wash., Alta., Yukon; also Ariz., Colo. Transit., Canad., Huds. zones: Europe.  
*Homoporus* (!) *punctiventris* Thomson, 1890. Opusc. Ent. 14: 1490, 1500. ♀.  
 Taxonomy: Dasch, 1964, pp. 242, 244, 267.

**rohweri** (Brues). Alaska, Yukon, Sask. south to Calif., N. Mex., Canad., Transit Zones. Hosts: *Endrosis sarcitrella* (L.) and *Metasyrphus perplexus* (Osborn). Transf. from syn. of *elongatus* (Provancher), a valid species (*teste* Dasch, 1964, pp. 244, 245, 254).

\***rugipleuris ellesmerae** Dasch. Ellesmere Is.

*Sussaba rugipleuris ellesmerae* Dasch, 1964. Amer. Ent. Inst. Mem. 3: 261, 262, 263. ♂, ♀.

\***rugipleuris rugipleuris** Dasch. N. W. T., Yukon, Alaska, Wyo. Arctic, Huds. Zones.

*Sussaba rugipleuris rugipleuris* Dasch, 1964. Amer. Ent. Inst. Mem. 3: 243, 244, 260, 261, 262. ♂, ♀.

#### Genus HOMOTROPUS Foerster

*Homotropus* Foerster. Remove from syn. of *Syrphoctonus* Foerster, Sup. 1, p. 57, a valid genus (*teste* Townes, Townes and Gupta, 1961, p. 329).

Place in Catalog before *Syrphoctonus* Foerster, on p. 350 (Sup. 1, p. 57).

**alaskensis** (Ashmead). Yukon. Transf. from *Syrphoctonus* Foerster, p. 350 (*teste* Dasch, 1964, p. 118).

**albopictus albopictus** Davis, changed status. N. W. T., Yukon south to Mich., Idaho, B. C., also N. Mex. Reduced to subsp. rank (*teste* Dasch, 1964, p. 101).

\***albopictus ithacae** Dasch. N. S., N. W. T., Que., to N. C. west to Wyo., Utah, Wash., Oreg.

*Homotropus albopictus ithacae* Dasch, 1964. Amer. Ent. Inst. Mem. 3: 101, 103. ♂, ♀.

\***aquiloni** Dasch. Greenland.

*Homotropus aquilonius* Dasch, 1964. Amer. Ent. Inst. Mem. 3: 94, 135. ♀.

\***arizonensis** Dasch. Colo., Ariz., Calif.

*Homotropus arizonensis* Dasch, 1964. Amer. Ent. Inst. Mem. 3: 90, 96, 114. ♂, ♀.

\***badius** Dasch. Calif.

*Homotropus badius* Dasch, 1964. Amer. Ent. Inst. Mem. 3: 91, 99, 170. ♂, ♀.

**belangerii** (Provancher). Ont. Transf. from *Syrphoctonus* Foerster, p. 350 (*teste* Dasch, 1964, pp. 90, 96, 116. ♂, ♀).

\***columbiensis** Dasch. Alta., B. C. south to Calif., Utah, Colo.

*Homotropus columbiensis* Dasch, 1964. Amer. Ent. Inst. Mem. 3: 94, 99, 123. ♂, ♀.

\***compactus** Dasch. Mich., N. W. T., Colo., Wash., Oreg.

*Homotropus compactus* Dasch, 1964. Amer. Ent. Inst. Mem. 3: 90, 96, 119. ♂, ♀.

\***confertus** Dasch. Que., N. Mex., B. C.

*Homotropus confertus* Dasch, 1964. Amer. Ent. Inst. Mem. 3: 92, 97, 142. ♂, ♀.

**cressonii** (Davis). Transf. from *Syrphoctonus* Foerster, p. 350 (*teste* Dasch, 1964, pp. 92, 178).

**cultriformis** (Davis). Alaska. Transf. from *Syrphoctonus* Foerster p. 350, Sup. 1, p. 57 (*teste* Dasch, 1964, pp. 91, 99, 179).

**decoratus** (Cresson). Mex. Transf. from *Syrphoctonus* Foerster, p. 350 (*teste* Dasch, 1964, pp. 93, 99, 127).

\***elegans** (Gravenhorst). Baffin Is., Que., Ont., Mich.

*Bassus elegans* Gravenhorst, 1829. Ichn. Europaea 3: 313. ♂.

\**Bassus rufonotatus* Holmgren, 1856. Svenska Vetensk.-Akad. Handl. (n. s.) 1: 369. ♂, ♀.

- \***fossatus aureopectus** Dasch. N. W. T. to Alaska, south to Colo., Oreg.  
*Homotropus fossatus aureopectus* Dasch, 1964. Amer. Ent. Inst. Mem. 3: 158, 160. ♂, ♀.
- \***fossatus fossatus** Dasch. Maine and Que., to N. Y. and Mass. west to B. C., N. W. T.  
*Homotropus fossatus fossatus* Dasch, 1964. Amer. Ent. Inst. Mem. 3: 94, 98, 157. ♂, ♀.
- \***fraudulentus fraudulentus** Dasch. Maine, Que., Idaho, Alta., Yukon, B. C., Wash., Colo., Canad. Zone.  
*Homotropus fraudulentus fraudulentus* Dasch, 1964. Amer. Ent. Inst. Mem. 3: 93, 97, 149, 150, 151. ♂, ♀.
- \***fraudulentus recurvatus** Dasch. Calif., Wash.  
*Homotropus fraudulentus recurvatus* Dasch, 1964. Amer. Ent. Inst. Mem. 3: 150, 151, 152. ♂, ♀.
- \***imperfectus** Dasch. Labrador, Mich., B. C., Wash., Oreg.  
*Homotropus imperfectus* Dasch, 1964. Amer. Ent. Inst. Mem. 3: 92, 97, 155. ♂, ♀.
- \***labradorensis** Dasch. Labrador, Alta., Colo.  
*Homotropus labradorensis* Dasch, 1964. Amer. Ent. Inst. Mem. 3: 93, 98, 136. ♂, ♀.
- laevis** (Brues). Transf. from *Syrphoctonus* Foerster, p. 351 (*teste* Dasch, 1964, pp. 92, 97, 153).
- maculifrons** (Cresson). Canad., Transit. Zones; Hawaii. Host: *Metasyrphus perplexus* (Osborn). Transf. from *Syrphoctonus* Foerster, p. 351 (*teste* Townes, 1961, Ent. Soc. Wash. Proc. 63 (2): 104).  
 Taxonomy: Dasch, 1964, pp. 92, 97, 147.
- melanogaster** (Holmgren). N. W. T., Que., Alaska, Wash. Arctic and Huds. Zones. Transf. from *Syrphoctonus* Foerster, p. 351 (*teste* Townes, 1961, Ent. Soc. Wash. Proc. 63 (2): 104).
- minimus** (Cresson). Transf. from *Syrphoctonus* Foerster, p. 351 (*teste* Dasch, 1964, p. 171).
- \***nigriclypealis** Dasch. Que., Alta., Greenland.  
*Homotropus nigriclypealis* Dasch, 1964. Amer. Ent. Inst. Mem. 3: 91, 110. ♀.
- nigritarsus fuscitarsus** (Provancher), changed status. Change last part of distr. to read: . . . also in Canad. Zone east to Atlantic. *H. nigritarsus nigritarsus* (Gravenhorst) (recorded in Catalog as *elegans* var. *nigritarsus*) occurs in Europe.  
*Syrphoctonus fuscitarsus* (Provancher), Sup. 1, p. 57. Reduced to subsp. rank (*teste* Dasch, 1964, p. 132). Transf. from *Syrphoctonus* Foerster, p. 351 (syn. of *humeralis* (Provancher)), and Sup. 1, p. 57 (*teste* Dasch, 1964, p. 132).
- nigritarsus groenlandicus** (Holmgren), changed status. Transf. from *Syrphoctonus* Foerster, p. 351 (*teste* Townes, 1961, Ent. Soc. Wash. Proc. 63: 104).  
*Syrphoctonus groenlandicus* (Holmgren). Reduced to subsp. rank (*teste* Dasch, 1964, p. 132, 135).
- \***novitus** Dasch. Alaska (Sable Pass).  
*Homotropus novitus* Dasch, 1964. Amer. Ent. Inst. Mem. 3: 98, 130. ♂.
- \***nudus** Dasch. Que., N. W. T. to Alaska south to Mich., Colo., Calif. Huds., Canad. Zones.  
*Homotropus nudus* Dasch, 1964. Amer. Ent. Inst. Mem. 3: 90, 96, 111. ♂, ♀.
- pacificus** (Cresson). N. W. T., Canad. Zone; Mexico. Host: *Bigonicheta* sp. Transf. from *Syrphoctonus* Foerster, p. 351 (*teste* Townes, 1961, Ent. Soc. Wash. Proc. 63: 104).  
 Taxonomy: Dasch, 1964, pp. 95, 99, 167.

- \***pallipes** (Gravenhorst). Transcont. in Huds., Canad., and Transit. Zones; Mexico, Europe.  
*Bassus pallipes* Gravenhorst, 1829. Ichn. Europaea 3: 325. "♂" = ♀.  
*Syrphoctonus pallipennis* (Provancher). Transf. from *Syrphoctonus* Foerster (syn. and transf. *teste* Dasch, 1964, pp. 94, 99, 175).  
 \**Bassus pallidipes* Bignell, 1898. Trans. Devon. Assoc. 30: 500. Emend.
- pectoralis** (Provancher). Transf. from *Syrphoctonus* Foerster, p. 351 (*teste* Dasch, 1964, pp. 94, 99, 121).
- pleuralis pleuralis** (Cresson), changed status. East. No. Amer., centr. Tex. Transf. from *Syrphoctonus* Foerster, p. 351 (*teste* Dasch, 1964, pp. 92, 97, 145).  
*Syrphoctonus pleuralis* (Cresson), p. 351. Reduced to subsp. rank (*teste* Dasch, 1964, p. 145).
- pleuralis syrphicola** (Ashmead), changed status. Alta., B. C. south to Calif., Utah, Colo. Hosts: *Scaeva pyrastis* (L.); *Metasyrphys perplexus* (Osborn).  
*Bassus syrphicola* Ashmead. Transf. from syn. of *Syrphoctonus pleuralis* (Cresson), p. 351, and reduced to subsp. rank (*teste* Dasch, 1964, pp. 145, 146).
- \***quadrangularis** Dasch. Colo., Alta, Yukon, Alaska, B. C., Idaho, also Mass., N. J.  
*Homotropus quadrangularis* Dasch, 1964. Amer. Ent. Inst. Mem. 3: 91, 96, 106. ♂, ♀.
- \***robsonensis** Dasch. B. C. (Robson).  
*Homotropus robsonensis* Dasch, 1964. Amer. Ent. Inst. Mem. 3: 91, 96, 183. ♂, ♀.
- robustus** (Davis). B. C., Mich. Transf. from *Syrphoctonus* Foerster, p. 351 (*teste* Dasch, 1964, pp. 91, 96, 181).
- \***rufulus** Dasch. Maine, Ont. to S. C. west to Wis., Ill.; also La.  
*Homotropus rufulus* Dasch, 1964. Amer. Ent. Inst. Mem. 3: 90, 96, 104. ♂, ♀.
- \***sicarius** Dasch. Labrador, Que., N. W. T., Alaska in Huds. and Arctic Zones. Host: simuliid pupa.  
*Homotropus sicarius* Dasch, 1964. Amer. Ent. Inst. Mem. 3: 94, 98, 161. ♂, ♀.
- \***signatus** (Gravenhorst). N. S., Que. to Md., Ohio, west to Colo., Oreg., B. C., Yukon, Alaska; Europe, Japan, Kuriles. Host: *Sphaerophoria cylindrica* (Say).  
*Bassus* (*Bassus*) *signatus* Gravenhorst, 1829. Ichn. Europaea 3: 325. ♀.  
*Syrphoctonus compressiventris* (Cresson) (syn. *teste* Dasch, 1964, p. 164).  
*Zootrephes montanus* Davis. Transf. from *Syrphoctonus* Foerster, p. 350 (*teste* Dasch, 1964, pp. 95, 100, 164).
- \***tarsatorius** Panzer. Que., N. W. T., Ont., Alaska, B. C., Oreg., Idaho, Alta., Colo., Mich., N. Y. in Huds., Canad. Zones; Europe, Asia.  
*Bassus tarsatorius* Panzer, 1809. Faunae Ins. Germanicae Jahrg. 9, H. 102, T. 19. ♀.
- \***teres** Dasch. Colo.  
*Homotropus teres* Dasch, 1964. Amer. Ent. Inst. Mem. 3: 90, 95, 113. ♂, ♀.
- \***venustus** Dasch. Colo., Utah, Idaho.  
*Homotropus venustus* Dasch, 1964. Amer. Ent. Inst. Mem. 3: 89, 95, 138. ♂, ♀.
- \***vitreus** Dasch. Labrador, N. W. T., Alaska, B. C., Alta., Wash., Oreg., Calif., Wyo., Mich.  
*Homotropus vitreus* Dasch, 1964. Amer. Ent. Inst. Mem. 3: 94, 100, 173. ♂, ♀.

Genus *SYRPHOCTONUS* Foerster, pp. 350–351, Sup. 1, p. 57

*Homotropus* Foerster. Remove from syn. A valid genus.

*agilis* (Cresson). Syn. of *flavolineatus* (Gravenhorst).

*alaskensis* (Ashmead). Transf. to *Homotropus* Thomson.

*albopictus* (Davis). Transf. to *Homotropus* Thomson and reduced to subsp. rank.

*belangerii* (Provancher). Transf. to *Homotropus* Thomson.

\**citropectoralis* (Schmiedeknecht). N. Y., Pa., Ohio, Mich., B. C., Alaska; Europe.

*Homocidus citropectoralis* Schmiedeknecht, 1926. Opusc. Ichn. 5 (43): 3389, 3412. ♂.

*compressiventris* (Cresson). Transf. to *Homotropus* Thomson as syn. of *signatus* (Gravenhorst).

*cressonii* Davis. Transf. to *Homotropus* Thomson.

*cultriformis* (Davis). Transf. to *Homotropus* Thomson.

*elegans* var. *nigritarsus* (Gravenhorst). Delete from Catalog.

\**flavolineatus* (Gravenhorst). Transcont. in Huds., Canad., Transit. and U. Austr. zones. Europe, Asia. Hosts: *Baccha clavata* (F.), *Metasyrphus lapponicus* (Zett.).

*Bassus flavolineatus* Gravenhorst, 1829. Ichn. Europeaea 3: 337. ♀.

*Syrphoctonus agilis* (Cresson) (syn. *teste* Dasch, 1964, p. 201).

*foutsii* Cushman. Transf. to *Campocraspedon* Uchida.

*gillettii* Davis. Transf. to *Tymnophorus* Schmiedeknecht.

*laevis* (Brues). Transf. to *Homotropus* Thomson.

*maculifrons* (Cresson). Transf. to *Homotropus* Thomson.

*melanogaster* (Holmgren). Transf. to *Homotropus* Thomson.

*minimus* (Cresson). Transf. to *Homotropus* Thomson.

*pacificus* (Cresson). Transf. to *Homotropus* Thomson.

*pallipennis* (Provancher). Transf. to *Homotropus* Thomson as syn. of *pallipes* (Gravenhorst).

\**patei* Dasch. Colo., Alaska.

*Syrphoctonus patei* Dasch, 1964. Amer. Ent. Inst. Mem. 3: 201, 207. ♀.

*pectoralis* (Provancher). Transf. to *Homotropus* Thomson.

*pleuralis* (Cresson). Transf. to *Homotropus* Thomson.

*Bassus syrphicola* Ashmead. Transf. to *Homotropus* Thomson as valid subsp. of *pleuralis*.

*robustus* Davis. Transf. to *Homotropus* Thomson.

*vertebratus* Cushman. Transf. to *Xestopelta* Dasch.

\*Genus *XESTOPELTA* Dasch

*Xestopelta* Dasch, 1964. Amer. Ent. Inst. Mem. 3: 8, 208.

Type: *Syrphoctonus vertebratus* Cushman. Orig. desig.

Place on page 351 after *Syrphoctonus* Foerster.

*vertebrata* (Cushman). Vt., N. W. T., B. C., Wash. Transf. from *Syrphoctonus* Foerster, p. 351 (*teste* Dasch, 1964, p. 209).

*Himertosoma quinquecinctum* Ashmead Ms., in Slosson, 1902. Syn. wrongly placed at top of p. 58 in Sup. 1. Place after *Syrphoctonus bilineatus* Ashmead Ms., in Slosson, 1900.

Genus *PHTHORIMA* Foerster, pp. 351–352, Sup. 1, p. 58

*Phthorima* Foerster. In type citation, change "Desig. by Viereck" to: Incl. by Thomson, 1890 [only one species].

- bidens** (Davis). Mass., Que., Ont., Ohio, Colo., Alaska. Host: *Neocnemodon coxalis* (Curr.).
- \***compressa** Desvignes. Alaska, Yukon, B. C., Alta., Colo.; Europe.  
*Bassus compressus* Desvignes, 1856. Cat. Brit. Ichn., p. 91. ♀.
- extensor** Cushman. N. S., Que., Ont., Ohio, W. Va., Tenn., B. C.
- \***rufipleurum** Dasch. Ont., N. H., Mass., Conn., N. Y., Md., Ohio, Mich., N. W. T.  
*Phthorima rufipleurum* Dasch, 1964. Amer. Ent. Inst. Mem. 3: 217, 218, 221. ♂, ♀.
- \***townesi** Dasch. Ont., Mass., N. Y., Ohio, Mich., Iowa.  
*Phthorima townesi* Dasch, 1964. Amer. Ent. Inst. Mem. 3: 217, 218, 224. ♂, ♀.
- \***sulcigena** Dasch. B. C. (Robson).  
*Phthorima sulcigena* Dasch, 1964. Amer. Ent. Inst. Mem. 3: 217, 228. ♂.
- \*Genus **CAMPOCRASPEDON** Uchida
- Campocraspedon* Uchida, 1957. Hokkaido Univ. Fac. Agr. Jour. 50: 226, 237.  
 Type: *Campocraspedon satoi* Uchida. Orig. desig. and by monotypy.
- Place on p. 352 after *Phthorima* Foerster.  
 Taxonomy: Dasch, 1964, p. 211.
- foutsii** (Cushman). Ont., N. C., Transf. from *Syrphoctonus* Foerster, p. 351 (*teste* Dasch, 1964, pp. 211, 212).
- \***truncatus** Dasch. Alaska, B. C., Idaho, Colo. Canad. Zone.  
*Campocraspedon truncatus* Dasch, 1964. Amer. Ent. Inst. Mem. 3: 211, 212, 214. ♂, ♀.
- Genus **ENIZEMUM** Foerster, p. 352, Sup. 1, p. 58
- \***huronense** Dasch. Mich. (Huron Mts., Marquette Co.).  
*Enizemum huronense* Dasch, 1964. Amer. Ent. Inst. Mem. 3: 186, 199. ♂.
- \***imitatum** Dasch. Ariz., Calif.  
*Enizemum imitatum* Dasch, 1964. Amer. Ent. Inst. Mem. 3: 187, 196. ♂.
- \***insidiosum** Dasch. Calif. (Carmel).  
*Enizemum insidiosum* Dasch, 1964. Amer. Ent. Inst. Mem. 3: 186, 197. ♀.
- \***matanuskae** Dasch. Alaska, Yukon.  
*Enizemum matanuskae* Dasch, 1964. Amer. Ent. Inst. Mem. 3: 186, 191. ♀.
- ornatum** (Gravenhorst). N. S., Colo., Yukon, B. C., Canad. Zone.
- petiolatum** (Say). Canad. Zone.
- \***scorteum** Dasch. Que., N. W. T., Colo., B. C.  
*Enizemum scorteum* Dasch, 1964. Amer. Ent. Inst. Mem. 3: 186, 194. ♂, ♀.
- \***tridentatum** Dasch. Colo., Alta., Alaska.  
*Enizemum tridentatum* Dasch, 1964. Amer. Ent. Inst. Mem. 3: 185, 187, 189. ♂, ♀.
- Subfamily **METOPHIINAE**
- Revision: Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 3-318.
- Genus **METOPHIUS** Panzer, pp. 352-353
- METOPHIUS** subgenus **METOPHIUS** Panzer, p. 352

Delete statement in Catalog that this subgenus is not represented in the Nearctic Region.

- \***galbaneus** Townes and Townes. Calif., Oreg.  
*Metopius (Metopius) galbaneus* Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 63, 74. ♂, ♀.
- \***krombeini epixanthus** Townes and Townes. Colo., Ariz., Tex.  
*Metopius (Metopius) krombeini epixanthus* Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 69, 71. ♂, ♀.
- \***krombeini krombeini** Townes and Townes. N. Y. and N. J. south to Ga., west to Wis. and Ark.  
*Metopius (Metopius) krombeini krombeini* Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 63, 69, 70. ♂, ♀.
- \***mimicus** Townes and Townes. Ariz.  
*Metopius (Metopius) mimicus* Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 63, 68. ♂, ♀.
- pulchellus montanus** Cresson, changed status. Colo., Utah, Ariz. Transf. from subg. *Clemontia* Michener and reduced to subsp. rank (*teste* Townes and Townes, 1959, p. 72).
- pulchellus pulchellus** Cresson, changed status. Colo., Wyo. Transf. from subg. *Clemontia* Michener and reduced to subsp. rank (*teste* Townes and Townes, 1959, pp. 72, 74).
- \***pulchellus sonora** Townes and Townes. Ariz., N. Mex.  
*Metopius (Metopius) pulchellus sonora* Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 72, 73. ♂, ♀.
- robustus concinnus** Cresson, changed status. Calif. Transf. from subg. *Clemontia* Michener, and reduced to subsp. rank (*teste* Townes and Townes, 1959, p. 64).
- robustus mirandus** Cresson, changed status. Colo., Kans. Transf. from syn. of *Metopius (Clemontia) montanus* Cresson and reduced to subsp. rank (*teste* Townes and Townes, 1959, p. 65).  
*Metopius (Clemontia) grandior* Viereck (syn. by Townes and Townes, 1959, p. 65).
- robustus robustus** Cresson, changed status. N. Y. and N. J., to Ga., Ohio, Tenn., Mo. Transf. from subg. *Clemontia* Michener and reduced to subsp. rank (*teste* Townes and Townes, 1959, pp. 64, 66).  
*Metopius (Clemontia) harbecki* Skinner (syn. by Townes and Townes, 1959, p. 66).
- \***vittatus** Townes and Townes. B. C., Oreg., Calif., Utah, Ariz.  
*Metopius (Metopius) vittatus* Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 64, 76. ♂, ♀.

***Metopius* subgenus *Clemontia* Michener, pp. 352-353**

Delete from Catalog and place species in subgenera as indicated below. Type-species was misidentified; true *Ichneumon micratorius* Fabricius belongs to *Peltocarus* Thomson of which there are no Nearctic species (*teste* Townes and Townes, 1959, pp. 61-62).

- basalis** Cresson. Transf. to subg. *Tylopius* Townes and Townes.
- bellus** Cresson. Transf. to subg. *Tylopius* Townes and Townes.
- birkmani** Brues. Transf. to subg. *Cultrarius* Davis.
- comptus** Cresson. Transf. to subg. *Cultrarius* Davis.
- concinnus** Cresson. Transf. to subg. *Metopius* Panzer as subsp. of **robustus** Cresson.
- edwardsii** Cresson. Transf. to subg. *Tylopius* Townes and Townes.  
*Metopius nevadensis* Cresson. Remove from syn. and transf. to subg. *Tylopius* Townes and Townes as valid subspecies of **pollinctorius** (Say).
- errantia** Davis. Transf. to subg. *Peltales* Townes and Townes.

- grandior* Viereck. Transf. to subg. **Metopius** Panzer as syn. of **robustus mirandus** Cresson.
- harbecki* Skinner. Transf. to subg. **Metopius** Panzer as syn. of **robustus robustus** Cresson.
- medianus* Morley. Transf. to subg. **Tylopius** Townes and Townes as questionable syn. of **basalis basalis** Cresson.
- montanus* Cresson. Transf. to subg. **Metopius** Panzer as subsp. of **pulchellus** Cresson.  
**Metopius mirandus** Cresson. Delete from syn. and transf. to subg. **Metopius** Panzer as subsp. of **robustus** Cresson.
- pollinatorius* (Say). Transf. to subg. **Tylopius** Townes and Townes.  
**Metopius pinatorius** Brullé. Remove from syn.; valid European sp., or subsp. of **pollinatorius** Say (*teste* Townes and Townes, 1959, p. 98).
- pulchellus* Cresson. Transf. to subg. **Metopius** Panzer.
- robustus* Cresson. Transf. to subg. **Metopius** Panzer.
- rufipes* Cresson. Transf. to subg. **Cultrarius** Davis.
- scitulus* Cresson. Transf. to subg. **Cultrarius** Davis.
- ultimatus* Davis. Transf. to subg. **Cultrarius** Davis.
- xanthostigma* Ashmead. Transf. to subg. **Cultrarius** Davis.

**METOPUS subgenus CULTRARIUS Davis, p. 353**

- birkmani* Brues. Calif., Ariz., Tex. Transf. from subg. **Clemontia** Michener. Change sex signs following bibliog. ref. to ♂ (♀ misdet.) (*teste* Townes and Townes, 1959, pp. 78, 88).
- comptus* Cresson. Ga., S. Dak. Transf. from subg. **Clemontia** Michener (*teste* Townes and Townes, 1959, p. 78).
- \**consector* Townes and Townes. Va., Minn., Mo., Nebr., Kans., S. Dak., Colo.  
**Metopius (Cultrarius) consector** Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 78, 83. ♂, ♀.
- \**pectoralis* Townes and Townes. Mo., ?Tex.  
**Metopius (Cultrarius) pectoralis** Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 78, 85. ♂, ?♀.
- rileyi* Marlatt. Nebr.
- rufipes* Cresson. Nebr. Transf. from subg. **Clemontia** Michener (*teste* Townes and Townes, 1959, pp. 78, 84).
- \**scapulatus* Townes and Townes. Tex. (McDade).  
**Metopius (Cultrarius) scapulatus** Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 77, 81. ♂.
- scitulus* Cresson. Transf. from subg. **Clemontia** Michener (*teste* Townes and Townes, 1959, pp. 78, 80).
- \**secundus* Townes and Townes. N. Mex. ("San Janacio").  
**Metopius (Cultrarius) secundus** Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 78, 89. ♀.
- ultimatus* Davis. N. J., Ind., Mo., Kans., La., Miss. Transf. from subg. **Clemontia** Michener (*teste* Townes and Townes, 1959, pp. 78, 86).
- xanthostigma* Ashmead. Md. to S. C. west to N. Dak. Transf. from subg. **Clemontia** Michener (*teste* Townes and Townes, 1959, pp. 78, 82).

**\*METOPUS subgenus PELTALES Townes and Townes**

- Metopius** subg. **Peltales** Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 61, 91.  
 Type: **Metopius errantius** Davis. Orig. desig.



Place under genus **Metopius** Panzer following subg. **Cultrarius** Davis, p. 353.

\***errantius arizonicus** Townes and Townes. Ariz. (Chiricahua Mts.).

**Metopius (Peltales) errantius arizonicus** Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 93, 94. ♀.

\***errantius californicus** Townes and Townes. Calif., Oreg.

**Metopius (Peltales) errantius californicus** Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 93, 95. ♂, ♀.

**errantius errantius** Davis, changed status. Minn., Ont., N. J., Va. Transf. from subg. **Clemontia** Michener and reduced to subsp. rank (*teste* Townes and Townes, 1959, pp. 92, 93).

\***errantius floridanus** Townes and Townes. Fla. (Alachua Co.).

**Metopius (Peltales) errantius floridanus** Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 93, 94. ♀.

\***notatus** Townes and Townes. Ala. (Pyrition).

**Metopius (Peltales) notatus** Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 92, 96. ♀.

\***METOPIUS** subgenus **TYLOPIUS** Townes and Townes

**Metopius** subg. **Tylopius** Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 61, 97.

Type: **Metopius pinatorius** Brullé (= *micratorius* of authors, not Fabricius). Orig. desig.

Place under genus **Metopius** Panzer after subg. **Peltales** Townes and Townes, p. 353.

**basalis basalis** Cresson, changed status. ?Ga. Transf. from subg. **Clemontia** Michener and reduced to subsp. rank (*teste* Townes and Townes, 1959, pp. 104, 105).

?**Metopius medianus** Morley (syn. by Townes and Townes, 1959, p. 105).

\***basalis heinrichi** Townes and Townes. N. B., Maine, Ont., B. C. Host: *Saturniidae*.

**Metopius (Tylopius) basalis heinrichi** Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 104. ♂, ♀.

**bellus** Cresson. Calif., Oreg. Transf. from subg. **Clemontia** Michener (*teste* Townes and Townes, 1959, pp. 98, 102).

**edwardsii** Cresson. Alta. Transf. from subg. **Clemontia** Michener (*teste* Townes and Townes, 1959, pp. 97, 103).

**pollinatorius nevadensis** Cresson, changed status. Nev., Calif., Wash. Host: *Apatela* sp. Transf. from syn. of **Metopius** subg. **Clemontia** Michener *edwardsii* Cresson and reduced to subsp. rank (*teste* Townes and Townes, 1959, pp. 98, 100).

**pollinatorius pollinatorius** Say, changed status. N. S. and Que. west to B. C. Hosts: *Apetela* sp.; *A.* sp. on *Salix*; *Gluphisia septentrionalis* Wlkr.; hairy caterpillar on chokecherry. Transf. from subg. **Clemontia** Michener and reduced to subsp. rank (*teste* Townes and Townes, 1959, p. 98.)

Genus **PSEUDOMETOPIUS** Davis, p. 353

\***Tylocumnoides** Uchida, 1940. Sapporo Nat. Hist. Soc. Trans. 16 (3): 178 (syn. by Townes, 1957. Ent. Soc. Wash. Proc. 59 (3): 119).

Type: **Tylocumnoides egawai** Uchida. By monotypy and orig. desig.

\***Odontotylocumnus** Uchida, 1940. Sapporo Nat. Hist. Soc., Trans. 16 (3): 179. Syn. by Townes, 1957. Wash. Ent. Soc. Proc. 59 (3): 114).

Type: **Odontotylocumnus pilosus** Uchida. Orig. desig. and by monotypy.

**hagenii** (Cresson). Okla.

**Genus SPUDAEUS Gistel, pp. 353–354**

**minoris** (Davis). Trans. to **\*Bothromus** Townes and Townes.

**scaber umbrosus** (Davis), changed status. Mts. of Calif. and Ariz. Reduced to subsp. rank (*teste* Townes and Townes, 1959, p. 140). *S. scaber scaber* (Grav.) is European.

**\*Genus BOTHROMUS Townes and Townes**

**Bothromus** Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 8, 142.

Type: **Tylecomnus minoris** Davis. Orig. desig.

Insert following **Spudaeus** Gistel, p. 354.

**\*gibbus** Townes and Townes. Colo., Alta., Ont., Que.

**Bothromus gibbus** Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 143, 145. ♀.

**\*minoris cruralis** Townes and Townes. Calif. (Camino).

**Bothromus minoris cruralis** Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 143, 144. ♀.

**minoris minoris** (Davis), changed status. Transf. from **Spudaeus** Gistel and reduced to subsp. rank (*teste* Townes and Townes, 1959, p. 143).

**Genus CHORINAEUS Holmgren, p. 354**

**\*aequalis** Townes and Townes. Alta., Ont., Que., Mass., Conn., N. Y., Pa., Va., N.C.

**Chorinaeus aequalis** Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 13, 14, 21. ♂, ♀.

**californicus** Ashmead. Alaska, B. C., Wash., Calif. After bibliog. ref. change ♂ to: "♂" = ♀ (*teste* Townes in litt.).

**carinatus** (Cresson). Subsp. of **funebis** (Grav.).

**cariniger** Walsh. Syn. of **funebis carinatus** (Cresson).

**constrictus** Davis. N. Y., Md., Va., Tenn., N. C., Ga.

**\*emorsus** Townes and Townes. N. H., N. S.

**Chorinaeus emorsus** Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 14, 33. ♀.

**excessorius** Davis. Calif., Ont., Maine, Vt., N. Y., N. J., Pa., R. I., Md., Va., Ga., Ala., Minn., Wis., Mich., Iowa, Mo., Kans., Utah. Hosts: *Ancylis comptana* (Fröhlich), *Choristoneura fumiferana* (Clem.).

**funebis carinatus** (Cresson), changed status. B. C. to N. S. south to Tex. and Ala. Hosts: *Strepsicrates smithiana* (Wlshm.), *Tetralopha asperatella* Clem., *Acrobasis betulella* Hulst., *Anacampsis rhofructella* (Clem.), *Argyrotaenia velutinana* (Wlkr.), *?Trichotaphe* sp., *?Ancylis comptana fragariae* (Walsh & Riley). Reduced to subsp. rank (*teste* Townes and Townes, 1959, pp. 27, 28). *C. funebis funebis* (Grav.) is European.

**Chorinaeus cariniger** (Walsh) (syn. by Townes and Townes, 1959, p. 28).

**\*funebis clarus** Townes and Townes. Ariz., Nev.

**Chorinaeus funebis clarus** Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 27, 30. ♀.

**\*funebis divisus** Townes and Townes. Idaho, Colo. Host: *Grapholitha conversana* Wlshm.

**Chorinaeus funebis divisus** Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 27, 31. ♂, ♀.

**\*labiosus** Townes and Townes. N. C. (Mount Pisgah).

**Chorinaeus labiosus** Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 14, 32. ♀.

- \***longicalcar flavicrus** Townes and Townes. Oreg., Wash. *C. longicalcar longicalcar* Thomson is European.  
***Chorinaeus longicalcar flavicrus*** Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 16, 19. ♂, ♀.
- longicalcar pleturus** Davis, changed status. B. C., Wash., Calif., Minn., Va., W. Va. Host: *Choristoneura fumiferana* (Clem.); geometrid. Reduced to subsp. rank (*teste* Townes and Townes, 1959, pp. 15, 16).
- \***longicalcar suralis** Townes and Townes. Calif. (Berkeley).  
***Chorinaeus longicalcar suralis*** Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 16, 20. ♂, ♀.
- \***longicalcar talaris** Townes and Townes. Ont., Que. Hosts: *Choristoneura fumiferana* (Clem.), *Caripeta divisata* Wlkr., ?*C. angustiorata* Wlkr., *Semiothisa granitata* (Guen.), *Protoboarmes porcelaria* (Guen.), *Paraphia piniata* Pack.  
***Chorinaeus longicalcar talaris*** Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 16, 18. ♂, ♀.
- opacitas** Davis. Calif., Ariz.
- pleturus** Davis. Subsp. of **longicalcar** Thomson.
- pusillus** Davis. Syn. of ***Trieces costatus*** (Davis).
- \***recurvus** Townes and Townes. N. Y., N. H.  
***Chorinaeus recurvus*** Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 14, 31. ♂, ♀.
- Genus TRIECES Townes, p. 354**
- \***aquilus** Townes and Townes. N. C. (Highlands).  
***Trieces aquilus*** Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 36, 50. ♀.
- \***arcuatus** Townes and Townes. N. Y., Pa., Md., Va., N. C., Man.  
***Trieces arcuatus*** Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 35, 56. ♂, ♀.
- \***bradleyi** Townes and Townes. Maine, N. Y., Md.  
***Trieces bradleyi*** Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 36, 52. ♀.
- \***calvatus** Townes and Townes. Md., N. C., Tex.  
***Trieces calvatus*** Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 34, 54. ♂, ♀.
- \***cilius** Townes and Townes. Md., Va.  
***Trieces cilius*** Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 36, 53. ♂, ♀.
- costatus** (Davis). B. C., Wash., Calif., Colo., Minn., Que., N. B., Maine, Vt., N. Y. Canad. Zone.  
***Chorinaeus pusillus*** Davis (syn. by Townes and Townes, 1959, p. 38).
- \***densus** Townes and Townes. Mich.  
***Trieces densus*** Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 35, 42. ♂, ♀.
- \***dentatus** Townes and Townes. Ont., R. I., N. Y., Md. Hosts: *Geometridae*.  
***Trieces dentatus*** Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 34, 55. ♂, ♀.
- \***diffidens** Townes and Townes. Ont., Que., Maine, Mass., N. Y., N. J., Md., Colo. Hosts: *Psilocorsis fletcherella* Gbsn., *Tetralopha* sp.  
***Trieces diffidens*** Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 35, 57. ♂, ♀.
- \***ejectus** Townes and Townes. Utah (Wasatch Co.).  
***Trieces ejectus*** Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 36, 46. ♂.
- flavifrons** (Ashmead). Conn., Mich., Minn., S. Dak., Kans., Colo.

- \***fuscus** Townes and Townes. Ont., Mass., N. Y., Pa., N. J., Minn.  
*Trypoxetes fuscus* Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 36, 49. ♂, ♀.
- \***integer** Townes and Townes. Mass., N. Y., R. I., Va., N. C., Sask., Mich.  
*Trypoxetes integer* Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 36, 48. ♂, ♀.
- marlatti** (Ashmead). R. I., N. C.
- \***masoni** Townes and Townes.  
*Trypoxetes masoni* Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 35, 37. ♀, ♂.
- onitis** (Davis). Man.
- \***sapineus litus** Townes and Townes. B. C., Alta., Wash., Calif., Colo.  
*Trypoxetes sapineus litus* Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 43, 44. ♀.
- \***sapineus sapineus** Townes and Townes. Que., N. H., N. C., Mich., Minn.  
*Trypoxetes sapineus sapineus* Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 35, 43. ♀.
- \***sparsus** Townes and Townes. Vt. to S. C.  
*Trypoxetes sparsus* Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 36, 50. ♂, ♀.
- \***regularis** Townes and Townes. Calif. (Leevinging).  
*Trypoxetes regularis* Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 35, 40. ♀.
- \***teres** Townes and Townes. Calif., Colo., Man.  
*Trypoxetes teres* Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 35, 41. ♂, ♀.
- texanus** (Cresson). N. J., Md., Fla., Kans. Change sex sign following bibliog. ref. from ♂ to "♂" = ♀.
- \***walleyi** Townes and Townes. Ont., Que. Host: *Herculia thymetusalis* (Wlkr.).  
*Trypoxetes walleyi* Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 36, 47. ♂, ♀.

Genus **PERIOPE** Haliday, pp. 354–355

- \***Monoplectrochus** Heinrich, 1949. Münchner Ent. Gesell. Mitt. 35: 39: 109. (Syn. *teste* Townes, 1957, Ent. Soc. Wash. Proc. 59(3): 111).  
 Type: *Monoplectrochus hoerhammeri* Heinrich. Orig. design. and by monotypy.

**aethiops** (Cresson). Alta.

Genus **LEURUS** Townes, p. 355

- \***caeruliventris borealis** Townes and Townes. N. Y. and Mass. to Fla., Mich., La., Mo., Kans. Host: *Desmia funeralis* (Hübner).  
*Leurus caeruliventris borealis* Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 148, 149. ♂, ♀.
- caeruliventris** (Cresson) of Catalog, in s. str., excluded as Neotropical (*teste* Townes and Townes, 1959, p. 148).

\*Genus **SETICORNUTA** Morley

- \***Megatrema** Cameron, 1907. Ztschr. System. Hym. Dipt. 7: 468. Preocc.  
 Type: *Megatrema albopilosa* Cameron. By monotypy.  
*Seticornuta* Morley, 1913. Fauna British India, Hymenoptera, v. 3, Pt. 1, pp. 290, 310.  
 Type: (*Seticornuta albicalcar* Morley) = *albopilosa* (Cameron). Orig. design. and by monotypy.

Insert following **Leurus** Townes, p. 355.

**apicalis** (Cresson). Hosts: *Acrobasis betulella* Hulst., *A. indigenella* (Zell.), *A. sylvicola* Ely. Transf. from *Exochus* Gravenhorst (*teste* Townes and Townes, 1959, pp. 151, 153). Change sex sign after bibliog. ref. to "♂" = ♀. (*Teste* Townes and Townes, 1959, pp. 153.)

**terminalis** (Ashmead). Ont., Que., Pa., N. J., Va., W. Va., N. C., Ohio, ?Mo., Kans. Host: "tortricid". Transf. from *Exochus* Gravenhorst (*teste* Townes and Townes, 1959, p. 151).

**\*Genus CARRIA Schmiedeknecht**

*Carria* Schmiedeknecht, 1924. Ent. Monthly Mag. 60: 112.

Type: *Carria paradoxa* Schmiedeknecht. By monotypy.

Insert before *Colpotrochia* Holmgren, p. 355.

**\*dreisbachi californica** Townes and Townes. Calif.

*Carria dreisbachi californica* Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 155, 157. ♂, ♀.

**\*dreisbachi dreisbachi** Townes and Townes. Man to Que., south to Ill. and N. J., N. C.

*Carria dreisbachi dreisbachi* Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 154, 155. ♂, ♀.

**\*dreisbachi montana** Townes and Townes. Ariz., N. Mex., Colo.

*Carria dreisbachi montana* Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 155, 156. ♂, ♀.

**\*inulcata** Townes and Townes. Md., N. J., N. C., S. C.

*Carria inulcata* Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 154, 158. ♂, ♀.

**Genus COLPOTROCHIA Holmgren, p. 355**

*Scallama* Cameron. Remove from syn. Valid subg. of *Colpotrochia* with no Nearctic species (*teste* Townes, 1957. Ent. Soc. Wash. Proc. 59 (3): 103-104).

*Colpotrochoides* Uchida. Place as syn. of subg. *Scallama* Cameron. Other generic synonymy in Catalog syn. of subg. *Colpotrochia* Holmgren (*teste* Townes and Townes, 1959, p. 128).

**COLPOTROCHIA subgenus COLPOTROCHIA Holmgren**

**\*Aithris** Cameron, 1900. Proc. Manchester. Lit. Philos. Soc. Mem. 44: 106 (syn. by Townes and Townes, 1959, p. 128).

Type: *Aithris coenutus* Cameron. By monotypy.

**crassipes** (Provancher).

Taxonomy and Biology: Townes and Townes, 1959, p. 131.

**\*fultoni** Townes and Townes. Va., N. C., S. C.

*Colpotrochia (Colpotrochia) fultoni* Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 129, 132. ♀.

**texana** (Cresson).

Taxonomy and Biology: Townes and Townes, 1959, p. 129.

**trifasciata** (Cresson). Atlantic to 100° W. in Transit. and Upper Austr. Zones.

Taxonomy and Biology: Townes and Townes, 1959, pp. 129, 133.

**Genus TRICLISTUS Foerster, p. 355**

**\*adustus** Townes and Townes. Oreg., Calif., Colo.

*Triclistus adustus* Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 109, 119. ♀.

**brunnipes** (Cresson). Yukon, B. C., Wash., Oreg., Calif., Ariz., Man., Sask., Mont., Utah, Wyo., N. Mex.

- \***chosis** Townes and Townes. Ont., Mass., N. Y., Pa., N. J., Md., D. C., Va.  
*Triclistus chosis* Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216  
 [Pt. 1]: 109, 121. ♀.
- \***crassus** Townes and Townes. Alaska to Calif. east to P. E. I., Que. and N. Y.  
*Triclistus crassus* Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216  
 (Pt. 1): 108, 109, 110. ♂, ♀.
- emarginalus** (Say). Transcont. in Transit., U. Austr. and Canadian Zones.  
 Hosts: *Archips argyrospilus* (Wlkr.), *Argyrotaenia velutinana* (Wlkr.), *Anthophila pariana* (Clerck), *Croesia albicomana* Clem., *Tetralopha robustella* Zell., *Phlyctaenia extricalis* Guen., *Tholeria reversalis* (Guen.), *Bucculatrix* sp. on *Solidago*; pyralid on *Alnus incana*; *Arundinaria* sp. Transf. from **Exochus** Gravenhorst (teste Townes and Townes, 1959, p. 113).  
*Exochus fulvipes* (Cresson) (syn. by Townes and Townes, 1959, p. 113).
- \***evexus** Townes and Townes. N. H. to Md. and N. J., Minn., Iowa, Sask.  
 Hosts: *Archips cerasivorana* Fitch, *Acrobasis comptoniella* Froel.  
*Triclistus evexus* Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216  
 [Pt. 1]: 108, 109, 118. ♂, ♀.
- fulvipes** (Cresson). Syn. of **emarginalus** (Say).
- \***melanocephalus** (Cameron). Ont. and Que. to N. C.; Mich., Wis., S. Dak., Ariz.  
*Exochus melanocephalus* Cameron, 1886. Biol. Centr. Amer., Ins., Hym., v. 1, p. 280. "♂" = ♀.  
*Triclistus thoracicus* Ashmead (syn. by Townes and Townes, 1959, p. 126).
- \***occidentis** Townes and Townes. Alta., Wash., Calif.  
*Triclistus occidentis* Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216  
 [Pt. 1]: 108, 109, 116. ♀.
- \***pallipes** Holmgren. Alaska, Yukon south to Calif., Colo., Kans., Mich. to Maine south to Ala. and Ga.; Holarctic, Formosa. Hosts: *Acleris variana* (Fern.), *Paralobesia vitiana* (Clem.).  
*Triclistus pallipes* Holmgren, 1873. Öfvers. Svenska Vetensk.-Akad. Förh. 30(4): 59. ♀.  
*Exochus pygmaeus* Cresson (syn. by Townes and Townes, 1959, p. 124).
- \***podagricus** (Gravenhorst). Alaska, Alta., Idaho, Sask., Ont., Que., N. S.; Europe.  
*Exochus podagricus* Gravenhorst, 1829. Ichn. Europeaea, v. 2, p. 336. ?♀.
- propinquus** (Cresson). Pa., Va., N. C., Ga., Ala., Ohio, Mich.
- pygmaeus** (Cresson). Syn. of **pallipes** Holmgren.
- \***rectus** Townes and Townes. Ariz., Calif.  
*Triclistus rectus* Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216  
 [Pt. 1]: 108, 109, 117. ♀.
- thoracicus** Ashmead. Syn. of **melanocephalus** (Cameron).

\*Genus **MACROMALON** Townes and Townes

**Macromalon** Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 8, 158.

Type: **Macromalon montanum** Townes and Townes. Orig. desig. and by monotypy.

Insert after **Triclistus** Foerster, p. 355.

\***montanum** Townes and Townes. Colo.

**Macromalon montanum** Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 159. ♂, ♀.

Genus **HYPsicERA** Latreille, p. 356

\***cuneata cuneata** Townes and Townes. Ont., Maine, R. I., N. Y., Ohio.

*Hypsicera cuneata cuneata* Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 161, 165. ♂, ♀.

\**cuneata opaca* Townes and Townes. Alaska, Alta., Calif., Ariz.

*Hypsicera cuneata opaca* Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 165, 166. ♂, ♀.

\**curvator* Fabricius. Que. to Pa., west to B. C. and Oreg.

*Ichneumon curvator* Fabricius, 1793. Ent. System., v. 2, p. 177. ♀.

*Ichneumon mansuetor* Gravenhorst (syn. by Townes and Townes, 1959, p. 163).

\**fulviceps* Townes and Townes. Va. (Galax).

*Hypsicera fulviceps* Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 161, 164. ♀.

*mansuetor* (Gravenhorst). Syn. of *curvator* (Fabricius).

\*Genus **STETHONCUS** Townes and Townes

*Stethoncus* Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 8, 167.

Type: *Stethoncus arcticus* Townes and Townes. Orig. design. and by monotypy.

Insert following *Hypsicera* Latreille, p. 356.

\**arcticus* Townes and Townes. Alaska, Labrador, Man., N. H.

*Stethoncus arcticus* Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 168. ♂, ♀.

\*Genus **SYNOPSIS** Townes and Townes

*Synopsis* Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 8, 168.

Type: *Synopsis clepsydra* Townes and Townes. Orig. design. and by monotypy.

Insert before *Exochus* Gravenhorst, p. 356.

\**clepsydra* Townes and Townes. B. C., Calif., Wis., Mich., Ind., N. Y., Mass., Vt., Que.

*Synopsis clepsydra* Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 169. ♂, ♀.

Genus **EXOCHUS** Gravenhorst, pp. 356-357

\**Xanthexochus* Morley, 1913. Fauna British India, Hymenoptera, v. 3, pp. 290, 292 (syn. by Townes and Townes, 1959, p. 170).

Type: *Xanthexochus scutellatus* Morley. Orig. design.

*albiceps* Walsh.

Taxonomy: Townes and Townes, 1959, p. 266 (sp. unknown).

*albifrons* Cresson. Hosts: *Choristoneura rosaceana* (Harr.), *Argyrotaenia velutinana* (Wlkr.).

*alpinus* Cushman. Syn. of *flavifrontalis* Davis.

*annulicrus* Walsh. B. C. to N. B. south to Ariz., and N. C.

Taxonomy: Townes and Townes, 1959, pp. 212-214 (♀ descr.).

*apicalis* Cresson. Transf. to *Seticornuta* Morley.

\**armillosus* Townes and Townes. P. E. I., Mass., N. Y., N. J., Wis., Alta.

*Exochus armillosus* Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 175, 226. ♂, ♀.

*atriceps atriceps* Walsh, changed status. Ont. to Fla., also Wis., Kans., Tex. Reduced to subsp. rank (*teste* Townes and Townes, 1959, pp. 208, 209).

- \***atriceps atricorpus** Townes and Townes. N. B., Maine, Que., Man.  
*Exochus atriceps atricorpus* Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 208. ♂, ♀.
- atrocoxalis** Cresson. A subsp. of **mitratus** Gravenhorst.
- \***brutus** Townes and Townes. Ont., Que., N. Y., Pa., Md., N. C., Sask., Alta.  
 Host: Phycitid on *Tilia*.  
*Exochus brutus* Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 176, 228. ♂, ♀.
- \***bryanti** Townes and Townes. N. S., Ont., Alta.  
*Exochus bryanti* Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 173, 191. ♂, ♀.
- \***canidens** Townes and Townes. N. Y., Pa., Mich., Alta.  
*Exochus canidens* Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 178, 250. ♀.
- \***capnodes** Townes and Townes. Calif. (Oakland).  
*Exochus capnodes* Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 177, 239. ♂.
- \***cnemidotus** Townes and Townes. Yukon, B. C. to Que., Mass., N. Y., R. I.  
*Exochus cnemidotus* Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 176, 237. ♂, ♀.
- \***cuneatus** Townes and Townes. Maine (Jimpond). Host: *Heterarthrus nemoratus* (Fall.).  
*Exochus cuneatus* Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 177, 255. ♂.
- \***decoratus hebes** Townes and Townes. Alaska, B. C., Ariz., Colo. Host: *Acleris variana* (Fern.). *E. decoratus decoratus* Holmgren is European.  
*Exochus decoratus hebes* Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 263, 264. ♀.
- decoratus scitulus** Provancher, changed status. Ga., Mich., Minn., Ont., Que., N. S. Hosts: *Acleris variana* (Fern.), *Argyrotaenia* sp. on *Abies*; tortricid on *Abies*. Reduced to subsp. rank (*teste* Townes and Townes, 1959, p. 265).
- \***denotatus** Townes and Townes. Ont., Que., Mass., N. Y., Pa., Md., N. J., N. C., Mich., Minn. Host: *Zomaria interruptolineana* (Fern).  
*Exochus denotatus* Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 177, 251. ♂, ♀.
- \***dentifrons** Townes and Townes. Oreg., Calif., Ariz., N. Mex., Colo., Que.  
*Exochus dentifrons* Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 174, 206. ♂, ♀.
- dorsalis dorsalis** Cresson, changed status. Reduced to subsp. rank (*teste* Townes and Townes, 1959, p. 248).
- dorsalis pictilis** Walkley, changed status. Reduced to subsp. rank (*teste* Townes and Townes, 1959, p. 247).
- \***elimatus** Townes and Townes. Colo. (Rocky Mt. N. P.).  
*Exochus elimatus* Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 173, 194. ♂, ♀.
- emarginalus** (Say). Transf. to **Triclistus** Foerster.
- \***enodis** Townes and Townes. Ariz., Colo., S. Dak.  
*Exochus enodis* Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 172, 189. ♂, ♀.
- evetriae** Rohwer. Wash.
- \***externus** Townes and Townes. Oreg. ("Summit Prairie").  
*Exochus externus* Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 175, 238. ♀.



- \***fastigatus** Townes and Townes. Maine, Mass., R. I. Host: ? *Ancylis comp-tana* (Froel.).  
*Exochus fastigatus* Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 178, 249. ♂, ♀.
- ferrugineus** (Ashmead). Mass., Pa., Md., Fla., Iowa.
- flavifrontalis** Davis. Yukon, N. W. T., Wash., Oreg., Calif., Idaho, Utah, Colo., Minn., Mich., N. Y., N. B. Host: "tortricid."  
*Exochus alpinus* Cushman, 1922 (syn. by Townes and Townes, 1959, p. 204).
- Exochus montanus* Walkley, 1958. U. S. Dept. Agr. Monog. No. 2, Sup. 1, p. 59. N. syn.
- \***genualis** Townes and Townes. N. J., Md., W. Va., Va., Ga., Ohio.  
*Exochus genualis* Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 176, 233. ♂.
- \***gravipes** (Gravenhorst). N. S., Ont., Mich.; Europe.  
*Ichneumon gravipes* Gravenhorst, 1820. Accad. Sci. Torino, Mem. 24: 384. ♂, ♀.  
 Taxonomy: Townes and Townes, 1959, p. 194.
- \***hiuleus** Townes and Townes. B. C. (Rogers Pass).  
*Exochus hiuleus* Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 175, 216. ♀.
- \***litus** Townes and Townes. Alaska, Wash., Oreg., Calif., Nev., N. S.  
*Exochus litus* Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 173, 196. ♂, ♀.
- mandibularis** Cushman. Mich., N. H.
- \***megadon** Townes and Townes. R. I., N. Y., N. J., Mich., Colo.  
*Exochus megadon* Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 178, 259. ♀.
- \***mesodon** Townes and Townes. R. I., Conn., N. Y.  
*Exochus mesodon* Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 178, 258. ♀.
- \***mesorufus** Townes and Townes. N. B., N. Y., Del., Ala.  
*Exochus mesorufus* Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 176, 232. ♂, ♀.
- mitratus atrocoxalis** Cresson, changed status. Man. to N. B. south to W. Va.; also "Dak. Terr.", Tex. Host: tortricid on *Kalmia*. *E. mitratus mitratus* Gravenhorst is European.  
*Exochus atrocoxalis* Cresson. Reduced to subsp. rank (*teste* Townes and Townes, 1959, p. 181).
- \***mitratus orias** Townes and Townes. B. C., Wash., Oreg., Calif., Alta., Wyo., Utah, Nev.  
*Exochus mitratus orias* Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 181, 182. ♂, ♀.
- montanus** Walkley. Syn. of **flavifrontalis** Davis.
- \***montivagus** Townes and Townes. Colo. (Rocky Mt. N. P.).  
*Exochus montivagus* Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 174, 201. ♀.
- \***nigripalpis subobscurus** Townes and Townes. Calif. Hosts: *Acleris variegata* (Schiff.), *Archips argyrospilus* (Wlkr.), *Argyrotaenia citrana*. (Fern.), *A. franciscana* (Wlsm.), *Cnephasia longana* (Haw.), *Pandemis pyrusana* Kft. *Platynota stultana* (Wlsm.). *E. nigripalpis nigripalpis* Thomson is European.  
*Exochus nigripalpis subobscurus* Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 217, 219. ♂, ♀.
- \***nigripalpis tectulum** Townes and Townes. B. C. to N. S. south to Oreg., Colo., N. C. Hosts: *Archips rosana* (L.), *Choristoneura fumiferana* (Clem.).

***Exochus nigripalpis tectulum*** Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 217, 218. ♂, ♀.

\****ochreateus*** Townes and Townes. Ariz. (nr. Alpine).

***Exochus ochreateus*** Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 174, 202. ♂.

***ostentatus*** Davis. Ont., N. Y., Pa., N. J., Md., Ala., Minn., Alta.

Taxonomy: Townes and Townes, 1959, pp. 252-254 (♀ descr.).

***pallipes*** Cresson. Syn. of ***pleuralis*** Cresson.

\****peroniae*** Townes and Townes. 2 B. C., Wash., Oreg., Colo., also Ont., Que., N. S. to N. Y. and Mich. Hosts: *Acleris variaria* (Fern.), *Clepsis melaleucana* (Wlkr.), ?*Argyrotaenia* sp., *Archippus packardianus* (Fern.).

***Exochus peroniae*** Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 175, 235. ♂, ♀.

***pictilis*** Walkley. A subsp. of ***dorsalis*** Cresson.

***pictus xanthopsis*** Ashmead, changed status. B. C., Wash., Oreg., Calif., Colo., Ont., Que., N. S., Maine, N. H., N. Y., N. C. Host: *Heterarthrus nemoratus* (Fall.). Reduced to subsp. rank (*teste* Townes and Townes, 1959, p. 186). *E. pictus pictus* Holmgren is European.

***pleuralis*** Cresson. Mass. to Md., west to Mann., Utah, Ariz., Yukon. Hosts: *Anacamptis agrimoniella* (Clem.), *Ancylys comptana* (Fröel.); "*Peronea*" on *Viburnum*.

***Exochus pallipes*** Cresson (syn. *teste* Townes and Townes, 1959, p. 256).

\****postfurealis*** Townes and Townes. Ont., N. S. to N. C. west to Man., Colo. Hosts: *Acleris oxycoccana* (Pack.), *Episimus argutatus* (Clem.).

***Exochus postfurealis*** Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 177, 242. ♂, ♀.

\****pullatus*** Townes and Townes. Alaska, Man.

***Exochus pullatus*** Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 173, 197. ♂, ♀.

\****quadradians*** Townes and Townes. Md. (Takoma Park).

***Exochus quadradians*** Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 177, 254. ♀.

\****russeus*** Townes and Townes. Ariz., N. Mex., ? Pa.

***Exochus russeus*** Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 172, 188. ♂, ♀.

\****rutilatus*** Townes and Townes. B. C., Wis., Ont. and N. S. south to N. C.

***Exochus rutilatus*** Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 176, 225. ♂, ♀.

***scitulus*** Provancher. A subsp. of ***decoratus*** Holmgren.

***semirufus*** Cresson. Sask.

\****signifer*** Townes and Townes. Alaska, B. C., Utah, Minn., Wis., Mich., Ohio, N. Y., Maine.

***Exochus signifer*** Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 176, 240. ♀.

\****silus*** Townes and Townes. Utah, Idaho, Calif.

***Exochus silus*** Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 175, 261. ♂, ♀.

\****spilotus*** Townes and Townes. Wash., Ont., Maine.

***Exochus spilotus*** Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 177, 245. ♀.

\****spinalis*** Townes and Townes. Calif.

***Exochus spinalis*** Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 174, 202. ♀.

- \**stenostoma* Townes and Townes. B. C. to Calif., Ariz. Host: *Ephestia figulilella* Greg.  
*Exochus stenostoma* Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 173, 179. ♂, ♀.
- \**sulcatus* Townes and Townes. N. J.; ?Venezuela.  
*Exochus sulcatus* Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 174, 211. ♂.
- \**tenebrosus* Townes and Townes. Wash., Wyo., Colo.  
*Exochus tenebrosus* Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 174, 220. ♂, ♀.
- terminalis* (Ashmead). Transf. to *Seticornuta* Morley.
- \**transversus* Townes and Townes. Sask., Ont.  
*Exochus transversus* Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 176, 241. ? ♂, ♀.
- \**turgidus* Holmgren. Sask., Ont., Va., Fla., La., Calif.; Europe. Hosts: *Dio-ryctria amatella* (Hlst.), *D. auranticella* (Grt.), *D. reniculella* (Grt.), *Petrova albicapitana* Busck.  
*Exochus turgidus* Holmgren, 1856. Svenska Vetensk.-Akad. Handl. N. S., v. 1, n. 2, p. 312. ♀.
- \**ventricosus* Townes and Townes. R. I., N. Y.  
*Exochus ventricosus* Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 178, 260. ♀.
- virgatifrons* Townes and Townes. Ont., Maine, N. H., Mass., Conn., N. Y., Md., Ill., Wis., Iowa. Host: *Canarsia ulmiarrosorella* (Clem.).  
*Exochus virgatifrons* Townes and Townes, 1959. U. S. Natl. Mus. Bul. 216 [Pt. 1]: 176, 229. ♂, ♀.
- washingtonensis* (Davis). Alaska, Alta., Wash., Idaho, S. Dak., Colo., N. M., Mich., Ont., Que., Maine, Vt., N. J., Pa.
- xanthopsis* Ashmead. A subsp. of *pictus* Holmgren.

## Subfamily OPHIONINAE

### Tribe CAMPOPLEGINI

Genus PYRACMON Holmgren, p. 358

*Rhimphoctona* Foerster. Change type citation to: (*Pyracmon fulvipes* Holmgren) = *grandis* (Boyer de Fonscolombe).

Genus CYMODUSA Holmgren, p. 359

*laevissima* (Viereck). Transf. from *Campoplex* Gravenhorst, Sup. 1, p. 59. (Suggested by Walley and verified by examination of type spm.)

Genus CAMPOPLEX Gravenhorst, pp. 359-363

*Sinophorus* Foerster. Considered a valid genus by Townes, Townes, and Gupta, 1961, pp. 219, 449, but syn. of *Campoplex* Gravenhorst by Perkins, 1962, p. 452.

\**Phaedroctonus* Foerster, 1868. Naturh. Ver. Rheinlande Verh. 25:153 (syn. *teste* Townes, 1945. Amer. Ent. Soc. Mem. 11 (Pt. 2): 593; Townes, Townes, and Gupta, 1961, p. 220).

Type: (*Phaedroctonus minutus* Ashmead) = *cupressi* (Ashmead). Included by Ashmead, 1902.

*Omorga* Thomson. Delete type citation. Add: Emend.

*cupressi* (Ashmead). ? N. H.

*frustranae* Cushman. Md. Host: *Rhyacionia rigidana* Fern.

*laevissima* (Viereck). Transf. to *Cymodusa* Holmgren, p. 359.

*mellipes* (Provancher). Host: *Eucordylea ducharme* Freeman.

**triannulatus** (Cameron). Transf. from **Alphabetic List of Unplaced Species**, p. 408 (*teste* Townes, 1961. Ent. Soc. Wash. Proc. 63 (2): 106).

**validus** (Cresson). Host: *Dioryctria reniculella* (Grt.).

**\*Genus DEVORGILLA** Cameron

(= *Idechthis* Foerster, nec Huebner, p. 363)

(= *Exidechthis* Walkley, Sup. 1, p. 59)

**Devorgilla** Cameron, 1907. Tijdschr. v. Ent. 50: 51 (syn. *teste* Townes, Townes, and Gupta, 1961, p. 222). Perkins, 1962, p. 430, considers *Exidechthis* Walkley a valid genus.

Type: *Devorgilla dilatata* Cameron. By monotypy.

All spp. in *Idechthis* Foerster in catalog (except *canescens*) will be n. comb. in *Devorgilla* Cameron.

**canescens** (Gravenhorst).

\***Omorga columbiana** Johnson, 1899. U. S. Dept. Agr. Div. Ent. Bul. 20: 67. Nom. nud.

\***Idechthis ephestiae** Fletcher, 1903. Ent. Soc. Ontario, Ann. Rpt. 33: 86. Nom. nud.

**Genus CASINARIA** Holmgren, pp. 364–365

**Horogenes** Foerster. Transf. from p. 376. (Syn. *teste* Townes, Townes, and Gupta, 1961, p. 224; Perkins, 1962, p. 428).

Type: *Campoplex tenuiventris* Gravenhorst. Included by Brischke, 1880.

**Alcima** Foerster. Delete type citation. Replace with: *Campoplex orbitalis* Gravenhorst. Included by Brischke, 1880.

\***Rhythmonotus** Foerster, 1886. Naturh. Ver. Rheinlande Verh. 25: 151, 220 (as *Rhytmonotus*) (syn. *teste* Meyer, 1935. Tabl. anal. Faune URSS (16) v. 4, pp. 170-171; Perkins, 1962, p. 450).

Type: *Rhythmonotus* (!) *singularis* Schmiedeknecht. Included by Schmiedeknecht, 1909.

\***Nothanomalon** Szépligeti, 1905. Gen. Ins. 34: 39 (syn. *teste* Townes, Townes and Gupta, 1961, p. 224).

Type: *Nothanomalon novoguineensis* Szépligeti. By monotypy.

**Nothanomaloidea** Uchida, 1928. Fac. Agr. Hokkaido Imp. Univ. Jour. 21: 273. Preocc. (Syn. *teste* Townes, Townes, and Gupta, 1961, p. 225.)

Type: *Nothanomaloidea matsuyamensis* Uchida. Orig. desig.

**Deltops** Seyrig, 1935. Paris Mus. d'Hist. Nat. Mem. 4: 84 (syn. *teste* Townes, Townes, and Gupta, 1961, p. 225).

Type: *Deltops granulicoxis* Seyrig. Orig. desig.

\***Longicharops** Uchida, 1940. Ins. Matsumurana 14: 131. N. name for *Nothanomaloidea*.

\***Neonortoniella** Blanchard, 1947. Zool. Mus. Hist. Nat. Montevideo Comun. 2 (42): 4 (syn. *teste* Townes, Townes, and Gupta, 1961, p. 225).

Type: *Neonortoniella plusiae* Blanchard. By monotypy and orig. desig.

\***melanolophiae** Walley. B. C. Host: *Melanolophia imitata* (Wlkr.).

*Casinaria melanolophiae* Walley, 1959. Canad. Ent. 91 (9): 565. ♂, ♀.

**Genus CHAROPS** Holmgren, p. 366

**annulipes** Ashmead. Del. Host: *Plathypena scabra* (F.).

**Genus BATHYPLECTES** Foerster, p. 366

\***anura** (Thomson). N. J., Pa. Host: *Hypera postica* (Gyll.).

*Canidia anura* Thomson, 1887. Opusc. Ent., fasc. 11, p. 1113. ♂, ♀.

**curculionis** (Thomson). N. J., Va., N. C., Alta.

Taxonomy: Aubert, 1960. Vie et Milieu 11 (3): 490.

**Biology:** Coles and Puttler, 1963. Jour. Econ. Ent. 56 (5): 609-611.—Fisher, Schlinger, Van den Bosch, 1961. Jour. Econ. Ent. 54 (1): 196-197.—Puttler, Jones, Coles, 1961. Jour. Econ. Ent. 54 (5): 878-880.—Van den Bosch and Dietrick, 1959. Ent. Soc. Amer. Ann. 52 (5): 609-616.

**Genus BIOLYSIA** Schmiedeknecht, p. 366

**tristis** (Gravenhorst). N. Y., Pa., N. J., Del.

**Biology:** Puttler and Coles, 1962. Jour. Econ. Ent. 55 (6): 831-833.

**Genus CAMPOLETIS** Foerster, pp. 366-370

**argentifrons** (Cresson). Host: *Spodoptera frugiperda* (J. E. Sm.).

**longiceps** (Roman). Transf. from *Ecphoropsis* Ashmead, p. 370 (*teste* Townes, 1961. Ent. Soc. Wash. Proc. 63 (2): 105).

**Genus Ecphoropsis** Ashmead, p. 370

Delete from Catalog. No Nearc. spp.

**longiceps** Roman. Transf. to *Campoletis* Foerster, p. 368.

**Genus DUSONA** Cameron, pp. 370-375

**\*ferruginea** Walkley. Fla. (Dade Co.).

*Dusona ferruginea* Walkley, 1963. Ent. News 74 (9): 239. ♀.

**pilosa** (Walley). Host: *Melanolophila imitata* Wlkr.

**Genus NEPIERA** Foerster, p. 375

*Nepiera* Foerster. Change type citation to: (*Limneria concinna* Holmgren) = *Nepiera collector* (Thunberg) (*teste* Perkins, 1962, p. 438).

**marginata** (Provancher). N. B. Hosts: *Actebia fennica* (Tausch.); *Graphiphora smithi* (Snell); *Pseudaletia unipuncta* (Haw.).

**Biology:** Guppy, 1961. Canad. Ent. 93 (7): 569.

**Genus PHOBOCAMPE** Foerster, pp. 375-376

*Hypotherentes* Foerster. Change spelling of genus in type citation to *Hypotherentes* (!) and change date to 1898 (1897).

*Phobocampa* Thomson. Delete type citation. Add: Emend.

**disparis** (Viereck). N. Y.

**\*Genus SYNETAERIS** Foerster

*Synetaeris* Foerster, 1868. Naturh. Ver. Rheinlande Verh. 25: 155.

Type: *Synetaeris heteropus* Thomson. Desig. by Viereck, 1914.

Place in Catalog on p. 376 after *Phobocampe* Foerster.

**\*tenuifemur** Walley. N. B., Ont. B. C. Host: *Choristoneura fumiferana* (Clem.).

*Synetaeris tenuifemur* Walley, 1963. Canad. Ent. 95 (1): 23. ♂, ♀.

**Biology:** Miller and Renault, 1963. Canad. Ent. 95 (1): 24-28.

**Genus Horogenes** Foerster, pp. 376-380

*Horogenes* Foerster. Delete type citation; place as syn. of *Casinaria* Holmgren.

*Dyspetes* Foerster. Delete type citation; transf. to Tryphonini as valid genus.

Other generic synonyms listed are to be placed as syns. of (*Horogenes* of authors) = *Diadegma* Foerster (*teste* Townes, 1961, p. 234). Perkins, 1962, pp. 428-429 suggests *Nythobia* Foerster as the name to use for this concept.

Stability in the Campoplegini will be possible only after a careful gener-

ic revision of the whole tribe. Certainly *Horogenes* Auctt. has been a catch-all genus for many years.

Transf. all species to *Diadegma* Foerster except as noted below.

*cacoeiae* (Viereck). Transf. to \**Tranosema* Foerster as syn. of *arenicola* Thomson.

Genus **DIADEGMA** Foerster

(= *Horogenes* of Catalog and authors)

\**Areolina* Enderlein, 1921. Stettin. Ent. Zeit. 82: 41 (syn. *teste* Townes, Townes, and Gupta, 1961, p. 234).

Type: *Areolina imbecilla* Enderlein. Orig. desig.

Replaces *Horogenes* Foerster, p. 376. Species transf. from *Horogenes* in Catalog are n. comb. in *Diadegma* with the exception of a few spp. already cited in economic literature.

\**chrysostictum* (Gmelin), n. comb. Molarceic. Host: *Ephestia sericarium* Scott.

*Ichneumon chrysostictos* Gmelin, 1790. In Linnaeus Syst. nat. Ed. 13, T. I, Pt. V, p. 2721, n. 407.

*Horogenes kiehtani* (Viereck) (syn. *teste* Walley in Fisher, 1959. Canad. Jour. Zool. 37 (4): 429).

Biology and Ecology: Fisher, 1959, *loc. cit. supra*, pp. 429-446;—1961, Jour. Expt. Zool. 38 (2): 267-275;—1962, Ecology 43 (2): 314-316.

*eureka* (Ashmead). Hosts: *Acleris variegana* (Schiff.), *Croesia albicomana* (Clem.), ?*Epinotia crenana* (Hbn.), *Pandemis pyrusana* Kft.

*hospitum* (Holmgren). Transf. from **Alphabetic List of Unplaced species**, p. 409 (*teste* Townes, 1961. Ent. Soc. Wash. Proc. 63 (2): 110).

*pterophorae* (Ashmead). Hosts: *Acleris variegana* (Schiff.), *Croesia albicomana* (Clem.).

*stenosomus* (Viereck). Que. Host: *Eucordylea ducharmeii* Freeman.

\*Genus **TRANOSEMA** Foerster

*Tranosema* Foerster, 1868. Naturh. Ver. Rheinlande Verh. 25: 157.

Type: *Tranosema arenicola* Thomson. Desig. by Viereck, 1914.

Place before *Hyposoter* Foerster, p. 380 of Cat.

\**arenicola* Thomson. B. C., Europe.

*Tranosema arenicola* Thomson, 1887. Opusc. Ent. fasc. 11, p. 1138.

*Horogenes cacoeiae* (Viereck). Transf. from *Horogenes* Foerster, p. 377. N. syn. (*teste* Walley, in litt.).

Genus **HYPOSOTER** Foerster, pp. 380–383

*Hyposoter* Foerster. In type citation change "Included by Viereck" to: Included and desig. by Viereck.

*Ischnoscopus* Foerster. Under type citation change the date after Ashmead to 1898 (1897).

*Anilastus* Foerster. Remove question mark.

*Anilasta* Thomson. Delete type citation and add: Emend. Remove question mark.

*annulipes* (Cresson). Host: *Pseudaletia unipuncta* (Haw.).

*exiguae* (Viereck). Ariz.

*parorgyiae* (Viereck). Host: *Dasychira plagiata* (Wlkr.).

Genus **OLESICAMPE** Foerster, p.. 383–385

*Olesicampe* Foerster. Change type citation to: *Ichneumon longipes* Mueller. Desig. by Viereck, 1912.

*Olesicampa* Thomson. Delete type citation and add: Emend.

?*Holocremna* Thomson. Delete type citation and add: Emend. (Perkins, 1962, p. 427, considers *Holocremnus* Foerster a valid genus.)

*euurae* (Ashmead). Idaho, ?Calif.

Biology: Caltagirone, 1964. Ent. Soc. Amer. Ann. 57 (3): 287-289 (nr. or subsp.?).

*lophyri* (Riley). Minn. Hosts: *Neodiprion lecontei* (Fitch); *N. swainnei* Midd.

### Tribe CREMASTINI

#### Genus DIMOPHORA Foerster, p. 386

*Dimophora* Foerster. Delete "Desig. by Viereck, 1914" from type citation; add: Incl. by Brischke, 1894 (see Perkins, 1962, p. 418).

*Dimophorus* Thomson. Change bibliog. ref. to: 1889. Opusc. Ent., fasc. 13, pp. 1355, 1356. Emend.

\**Demophorus* Thomson, 1890. Opusc. Ent. fasc. 14, pp. 1442, 1457.

Type: (*Demophorus arenicola* Thomson) = *Dimophora robusta* Brischke. First included species.

#### Genus PRISTOMERUS Curtis, pp. 386-387

*euryptychiae* Cushman. Hosts: *Acrobasis caryae* Grt.; *Gnorimoschema gallesolidaginis* (Riley), *Polychrosis carduana* Busck, *Suleima helianthana* (Riley); *Walshia amorphella* (Clem.).

#### Genus NEOCREMASTUS Cushman

*Neocremastus* Cushman. Removed from syn. of *Zaleptopygus* Viereck. A valid genus (*teste* Townes, 1958, Ins. of Micronesia v. 19, n. 2, p. 66 [under *Trathala* Cameron]).

*mellipes* (Provancher). Transf. from *Zaleptopygus* Viereck.

*stigmaterus* (Cresson). Transf. from *Zaleptopygus* Viereck.

#### Genus Zaleptopygus Viereck, pp. 388-390

(=CREMASTUS Gravenhorst, nec *Cremastus* of Catalog, *auct.*)

*Neocremastus* Cushman. Remove from syn.; a valid genus.

*aciculatus* (Davis). Transf. to \**Trathala* Cameron.

*albipennis* (Cresson). Transf. to *Cremastus* Gravenhorst.

*anomalus* (Cushman). Transf. to *Cremastus* Gravenhorst.

*audax* (Cresson). Transf. to *Cremastus* Gravenhorst as syn. of *fuscipennis* (Cresson).

*bilineatus* (Cushman). Transf. to *Cremastus* Gravenhorst.

*brunneipennis* (Walley). Transf. provisionally to *Cremastus* Gravenhorst.

*californicus* (Provancher). Transf. provisionally to *Cremastus* Gravenhorst.

*champlaini* (Cushman). Transf. to *Cremastus* Gravenhorst.

*cleridivorus* (Cushman). Transf. to \**Trathala* Cameron.

*delicatus* (Cresson). Transf. to \**Trathala* Cameron.

*dorcaschmae* (Cushman). Transf. to *Cremastus* Gravenhorst.

*egregiacolor* (Viereck). Transf. to *Cremastus* Gravenhorst.

*flavo-orbitalis* (Cameron). Transf. to \**Trathala* Cameron.

*fuscipennis* (Cresson). Transf. to *Cremastus* Gravenhorst.

*gallaecola* (Cushman). Transf. to *Cremastus* Gravenhorst.

*granulatus* (Davis). Transf. to \**Trathala* Cameron.

*hartii* (Ashmead). Transf. to \**Trathala* Cameron.

*hyalinipennis* (Cresson). Transf. to *Cremastus* Gravenhorst.  
*incompletus* (Provancher). Transf. to *Cremastus* Gravenhorst.  
*latithorax* (Cushman). Transf. to \**Trathala* Cameron.  
*mellipes* (Provancher). Transf. to *Neocremastus* Cushman.  
*mordellistenae* (Cushman). Transf. to *Cremastus* Gravenhorst.  
*nemoralis* (Davis). Transf. to \**Trathala* Cameron.  
*nigriclypealis* (Cushman). Transf. to *Cremastus* Gravenhorst.  
*obesus* (Cushman). Transf. to \**Trathala* Cameron.  
*orbitalis* (Cresson). Transf. to *Cremastus* Gravenhorst.  
*orbis* (Davis). Transf. to *Cremastus* Gravenhorst.  
*plesius* (Cushman). Transf. to \**Trathala* Cameron.  
*quintilis* (Viereck). Transf. provisionally to *Cremastus* Gravenhorst.  
*retiniae* (Cresson). Transf. to \**Trathala* Cameron.  
*rohweri* (Cushman). Transf. to *Cremastus* Gravenhorst.  
*rosae* (Cushman). Transf. to \**Trathala* Cameron.  
*rostratus* (Cushman). Transf. to \**Trathala* Cameron.  
*similis* (Cushman). Transf. to \**Trathala* Cameron.  
*snowi* (Viereck). Transf. to *Cremastus* Gravenhorst, provisionally.  
*stigmaterus* (Cresson). Transf. to *Neocremastus* Cushman.  
*tetralophae* (Cushman). Transf. to \**Trathala* Cameron.  
*vierecki* (Cockerell). Transf. to *Cremastus* Gravenhorst, provisionally.

All these transfers, excepting the provisional ones are by Townes (see *Insects of Micronesia* 19 (2): 65-66, 1958).

**Genus CREMASTUS Gravenhorst**

(=*Zaleptopygus* Viereck, in part, pp. 388-390)

The holotype of *C. spectator* Gravenhorst had been misidentified for many years (see Townes, 1958, *Ins. of Micronesia*, v. 19, n. 2, pp. 65-67).

*albipennis* (Cresson). Transf. from *Zaleptopygus* Viereck.  
*anomalus* Cushman. Transf. from *Zaleptopygus* Viereck.  
*bilineatus* Cushman. Transf. from *Zaleptopygus* Viereck.  
*?brunneipennis* Walley. Transf. from *Zaleptopygus* Viereck.  
*?californicus* (Provancher). Transf. from *Zaleptopygus* Viereck.  
*champlaini* Cushman. Transf. from *Zaleptopygus* Viereck.  
*dorcaschmae* Cushman. Transf. from *Zaleptopygus* Viereck.  
*egregiacolor* (Viereck). Transf. from *Zaleptopygus* Viereck.  
*fuscipennis* (Cresson). Transf. from *Zaleptopygus* Viereck.  
*Zaleptopygus audax* (Cresson). Syn. (*teste* Townes, 1958. *Ins. of Micronesia*, v. 19, no. 2, p. 65).  
*gallaecola* Cushman. Mich. Host: *Gnorimoschema* sp. on aster. Transf. from *Zaleptopygus* Viereck.  
*hyalinipennis* (Cresson). Transf. from *Zaleptopygus* Viereck.  
*incompletus* (Provancher). Transf. from *Zaleptopygus* Viereck.  
*mordellistenae* Cushman. Transf. from *Zaleptopygus* Viereck.  
*nigriclypealis* Cushman. Transf. from *Zaleptopygus* Viereck.  
*orbitalis* (Cresson). Transf. from *Zaleptopygus* Viereck.



- orbis* (Davis). Transf. from *Zaleptopygus* Viereck.  
*?quintilis* Viereck. Transf. from *Zaleptopygus* Viereck.  
*rohweri* Cushman. Transf. from *Zaleptopygus* Viereck.  
*?snowi* (Viereck). Transf. from *Zaleptopygus* Viereck.  
*?vierecki* (Cockerell). Transf. from *Zaleptopygus* Viereck.

\*Genus *TRATHALA* Cameron

(= *Zaleptopygus* Viereck, in part, pp. 388–390)

See statement under *Cremastus* Gravenhorst.

\**Trathala* Cameron, 1899. Manchester Lit. Phil. Soc. Mem. Proc. 43: 122.

Type: *Trathala striata* Cameron. By monotypy.

\**Epicremastus* Szépligeti, 1905. Gen. Ins., v. 34, p. 51 (syn. *teste* Townes, Townes, and Gupta, 1961, p. 252).

Type: *Epicremastus concolor* Szépligeti. By monotypy.

*Paurolexis* Cameron, 1907. Syn. Transf. from syn. of *Cremastus* of Catalog (*teste* Townes, Townes, and Gupta, 1961, p. 252).

\**Haristaeus* Cameron, 1910. Ent. Soc. London, Trans. 35: 442. (Syn. *teste* Townes, Townes, and Gupta, 1961, p. 252).

Type: *Haristaeus nigrifrons* Cameron. By monotypy.

- aciculata* (Davis). Transf. from *Zaleptopygus* Viereck.  
*cleridivora* (Cushman). Transf. from *Zaleptopygus* Viereck.  
*delicata* (Cresson). Transf. from *Zaleptopygus* Viereck.  
*flavoorbitalis* (Cameron). Transf. from *Zaleptopygus* Viereck.  
*granulata* (Davis). Transf. from *Zaleptopygus* Viereck.  
*hartii* (Ashmead). Transf. from *Zaleptopygus* Viereck.  
*latithorax* (Cushman). Transf. from *Zaleptopygus* Viereck.  
*memoralis* (Davis). Transf. from *Zaleptopygus* Viereck.  
*obesa* (Cushman). Transf. from *Zaleptopygus* Viereck.  
*plesia* (Cushman). Transf. from *Zaleptopygus* Viereck.  
*retinae* (Cresson). Transf. from *Zaleptopygus* Viereck.  
*rosae* Cushman. Transf. from *Zaleptopygus* Viereck.  
*rostrata* (Cushman). Transf. from *Zaleptopygus* Viereck.  
*similis* Cushman. Transf. from *Zaleptopygus* Viereck.  
*tetralophae* (Cushman). Transf. from *Zaleptopygus* Viereck.

Genus *Cremastus* Auctt. and Catalog, pp. 390–392, Sup. 1, 61

*Temelucha* Foerster. Delete from syn., a valid name for species concept of *Cremastus* of auctt. and catalog.

*Neleoethymus* Foerster. A valid genus.

*Tarytia* Cameron. Syn. of *Temelucha* Foerster.

*Cremastidea* Viereck. Syn. of *Temelucha* Foerster.

*Paurolexis* Cameron. Transf. to syn. of *Trathala* Cameron.

Transf. all spp. listed on pages 390–392 under *Cremastus*, except *attenuatus* Cushman, to *Temelucha* Foerster. Transf. *attenuatus* to *Neleoethymus* Foerster.

Genus *TEMELUCHA* Foerster

(= *Cremastus* Auctt. and Catalog, pp. 390–392; Sup. 1, p. 61)

*Temelucha* Foerster. Change type citation to:

Type: (*Porizon macer* Cresson) = *facilis* (Cresson). Desig. by Perkins, 1962 (one of four spp. incl. by Ashmead in Smith, 1900).

\**Paracremastus* Szépligeti, 1900. Termész. Füzetek 23: 28 (syn. *teste*

Townes, Townes and Gupta 1961, p. 256).

Type: *Paracremastus genalis* Szépligeti. By monotypy.

*Tarytia* Cameron. Syn.

*Cremastidea* Viereck. Syn. Change type citation to: (*Cremastidea chinensis* Viereck) = *biguttula* Matsumura.

*brevicauda* (Cushman). Transf. from *Cremastus*, p. 390.

*brevinervis* (Cushman). Transf. from *Cremastus*, p. 391.

*brevipetiolata* (Cushman). Transf. from *Cremastus*, p. 391.

*bruniceps* (Cushman). Transf. from *Cremastus*, p. 391.

*carpocapsae* (Cushman). Transf. from *Cremastus*, p. 391.

*chilonis* (Cushman). Transf. from *Cremastus*, p. 391.

*cookii* (Weed). Transf. from *Cremastus*, p. 391.

*epagoges* (Cushman). Transf. from *Cremastus*, p. 391.

*evetriae* (Cushman). Transf. from *Cremastus*, p. 391.

*facilis* (Cresson). Transf. from *Cremastus*, p. 391.

*ferruginea* (Davis). Transf. from *Cremastus*, p. 391.

*flaviceps* (Cushman). Transf. from *Cremastus*, p. 391.

*forbesi* (Weed). Transf. with its syn. (Sup. 1, p. 61) from *Cremastus*, p. 392, Sup. 1, p. 61.

*gracilipes* (Cushman). Transf. from *Cremastus*, p. 392.

*gracilis* (Cushman). Transf. from *Cremastus*, p. 392.

*grapholithae* (Cushman). Transf. from *Cremastus*, p. 392.

*hamiltonensis* (Viereck). Transf. from *Cremastus*, p. 392.

*interruptor* (Gravenhorst). Mich., Idaho. Transf. from *Cremastus*, p. 392.

*longigenalis* (Cushman). Transf. from *Cremastus*, p. 392, Sup. 1, p. 61.

*minor* (Cushman). Ga. Host: *Ostrinia nubilalis* (Hbn.). Transf. from *Cremastus*, p. 392.

*platynotae* (Cushman). Also Yuma, Ariz. Transf. from *Cremastus*, p. 392.

*protracta* (Cushman). Transf. from *Cremastus*, p. 392.

*pterophori* (Cushman). Transf. from *Cremastus*, p. 392.

*recta* (Provancher). Transf. from *Cremastus*, p. 392.

*rhyacioniae* (Cushman). Transf. from *Cremastus*, p. 392.

*ruficeps* (Cushman). Transf. from *Cremastus*, p. 392.

*sinuata* (Cushman). Transf. from *Cremastus*, p. 392.

#### Genus NELEOTHYMUS Foerster

*Neleothymus* Foerster. A valid genus (*teste* Townes, 1958. Ins. of Micronesia v. 19, n. 2, p. 68 [under *Temelucha*]).

*attenuatus* (Cushman). Transf. from *Cremastus* auctt. p. 390 (*teste* Townes, 1958, *loc. cit. supra*).

#### Tribe TERSILOCHINI

##### Genus BARYCNEMIS Foerster, p. 394

*Barycnemis* Foerster. In type citation replace "Desig. by Viereck, 1914" with: Included by Brischke, 1880.

##### \*Genus ISCHNOBATIS Foerster

(= *Luchatema* Walkley, Sup. 1, p. 61)

*Ischnobatis* Foerster, 1868. Naturh. Ver. Rheinlande Verh. 25: 148.

Type: *Thersilochus (Ichnobatis(!) stramineipes* Brischke.  
Inc. by Brischke, 1880.

*Luchatema* Walkley (syn. *teste* Perkins, 1962, pp. 391, 431).

*baldufi* (Walkley), n. comb. Transf. from *Luchatema* Walkley, Sup. I, p. 61.

\*Genus **ALLOPHRYS** Foerster

*Allophrys* Foerster, 1868. Naturh. Ver. Rheinlande Verh. 25: 147.

Type: *Thersilochus(!) oculatus* Ashmead. Desig. by Viereck, 1914.

Place on p. 394, after *Heterocola* Foerster. There are several undescribed Nearctic spp. belonging here.

Tribe **ANOMALINI**

(= Subtribe **ANOMALINA** of Catalog)

Dr. Short and Dr. Townes, in their published works, have included the tribes Anomalini, Gravenhorstiini, and Therionini in the subfamily Anomalinae. Dr. Short also included the Ophonellini (Cushman, 1922) here.

Genus **ANOMALON** Panzer, p. 395

*reticulatum* (Cresson). Host: *Conoderus vespertinus* (F.).

Biology: Robb, 1963. Ent. Soc. Amer. Ann. 56: 675.

\*Tribe **GRAVENHORSTIINI**

(= Subtribe **GRAVENHORSTIINA** of Catalog)

Genus **APHANISTES** Foerster, p. 396

\**Formosanomalon* Uchida, 1928. Hokkaido Imp. Univ. Fac. Agr. Jour. 21: 241 (syn. *teste* Townes, 1957. Ent. Soc. Wash. Proc. 59 (3): 107).

Type: (*Formosanomalon baibarense* Uchida) = *elegans baibarense* Shestakov. Orig. desig.

\**Macrostemma* Shestakov, 1923. Acad. Sci. Russ. Mus. zool. Ann. 24: 46. (Syn. *teste* Townes, 1957. Ent. Soc. Wash. Proc. 59 (3): 107.)

Type: *Macrostemma elegans* Shestakov. By monotypy and orig. desig.

Genus **BARYLYPA** Foerster, pp. 396-397

*Berylypa* Foerster. Place type cited in parentheses and add: = *delictor* (Thunberg).

\**Laphyctes* Foerster, 1868. Naturh. Ver. Rheinlande Verh. 25: 146. Preocc.

Type: *Laphyctes insidiator* Foerster. Incl. by Foerster, 1878 (syn. *teste* Perkins, 1962, p. 434).

\*?*Magnibucca* Morley, 1913. Revis. Ichn. British Mus., v. 2, pp. 50, 79 (syn. ? *teste* Townes, Townes and Gupta, 1961, p. 313).

Type: *Magnibucca testacea* Morley. By monotypy.

*relicta* (Fabricius). Transf. from **Alphabetic List of Unplaced Species**, p. 409 (*teste* Townes, 1961. Ent. Soc. Wash. Proc. 63 (2): 111).

Genus **CAMPOSCOPUS** Foerster

*Camposcopus* Foerster, 1868. Removed from syn. of *Gravenhorstia* Boie, p. 397 of Catalog.

*Labrorychus* Foerster (not of auctt. or of Catalog).

Type: *Anomalon nigricorne* Wesmael. Included by Brischke, 1880. N. syn. (Isogenotypic with *Blaptocampus* Thomson.)

\**Blaptocampus* Thomson, 1892. Opusc. Ent., fasc. 16, p. 1769 (syn. *teste* Townes, Townes, and Gupta, 1961, p. 312).

Type: *Anomalon nigricorne* Wesmael. Desig. by Viereck, 1914.

Place in *Gravenhorstiini*, p. 397, before *Gravenhorstia* Boie.

*aclevivorus* Rohwer. Transf. from *Gravenhorstia* Boie, p. 397 (*teste* Townes, Townes, and Gupta, p. 312).

Genus *GRAVENHORSTIA* Boie, pp. 397–398

*Gravenhorstia* Boie. Not in Nearctic fauna. According to Perkins (*in litt.*) the two characters that distinguish the genus are a central, preapical tooth on the clypeus and a strong, central tooth on face just below lower line of antennal insertions. I have seen no Nearctic species with both of these characters.

*Camposcopus* Foerster. Remove from syn. A valid genus (*teste* Townes, Townes and Gupta, 1961, p. 312).

*Erigorgus* Foerster. Delete type desig. and remove from syn. A valid genus (*teste* Perkins, 1962, pp. 412, 422).

*Sympratis* Foerster. Syn. of *Erigorgus* Foerster.

*Odontopsis* Foerster. Isogenotypic syn. of *Gravenhorstia* Boie.

*aclevivorus* (Rohwer). Transf. to *Camposcopus* Foerster.

*ambigua* (Norton). Transf. to *Erigorgus* Foerster.

*cerinops* (Gravenhorst). Transf. to *Erigorgus* Foerster.

*curtus* (Norton). Transf. to *Erigorgus* Foerster.

*edwardsii* (Cresson). Transf. to *Erigorgus* Foerster.

*eureka* (Ashmead). Transf. to *Erigorgus* Foerster.

*ferruginea* (Norton). Transf. to *Erigorgus* Foerster.

*fuliginosa* (Davis). Transf. to *Habronyx* Foerster.

*luteopecta* (Norton). Transf. to *Erigorgus* Foerster.

*magniceps* (Cresson). Transf. to *Habronyx* Foerster.

*propinqua* (Cresson). Transf. to *Erigorgus* Foerster.

*rotunda* (Davis). Transf. to *Erigorgus* Foerster.

*rufula* (Provancher). Transf. to *Erigorgus* Foerster.

*semirufa* (Norton). Transf. to *Erigorgus* Foerster.

*suburbis* (Davis). Transf. to *Erigorgus* Foerster.

*xanthopsis* (Ashmead). Transf. to *Erigorgus* Foerster.

Genus *ERIGORGUS* Foerster

*Erigorgus* Foerster. From syn. of *Gravenhorstia*, Boie, p. 397.

Type: *Anomalon fibulator* Gravenhorst, 1829. Desig. by Perkins, 1962. (*Anomalon carinatum* Brischke was only doubtfully included and not available for type desig.).

*Sympratis* Foerster. Transf. from syn. of *Gravenhorstia* Boie. In type citation change "*Erigorgus*" to: *Anomalon*.

*ambiguus* (Norton). Transf. from *Gravenhorstia* Boie, p. 397.

*cerinops* (Gravenhorst). Transf. from *Gravenhorstia* Boie, p. 397.

*curtus* (Norton). Iowa, Ark. Transf. from *Gravenhorstia* Boie, p. 397.

*edwardsii* (Cresson). Transf. from *Gravenhorstia* Boie, p. 397.

*eureka* (Ashmead). Transf. from *Gravenhorstia* Boie, p. 397.

*ferrugineus* (Norton). Transf. from *Gravenhorstia* Boie, p. 397.

*fuliginosus* (Davis). Transf. from *Gravenhorstia* Boie, p. 397.

*luteopectus* (Norton). Transf. from *Gravenhorstia* Boie, p. 397.

?*neglectum* (Morley). Transf. from *Therion* Curtis, p. 400.

*propinquus* (Cresson). Transf. from *Gravenhorstia* Boie, p. 397.

- rotundus** (Davis). Transf. from *Gravenhorstia* Boie, p. 397.  
**rufulus** (Provancher). Transf. from *Gravenhorstia* Boie, p. 398.  
**semirufus** (Norton). Transf. from *Gravenhorstia* Boie, p. 398.  
**suburbis** (Davis). Transf. from *Gravenhorstia* Boie, p. 398.  
**xanthopsis** (Ashmead). Transf. from *Gravenhorstia* Boie, p. 398.

Genus **AGRYPON** Foerster, Sup. 1, p. 61

- alaskensis** (Ashmead). B. C. Host: *Melanolophia imitata* Wlkr.

Genus **TRICHIONOTUS** Cameron  
 (= *Labrorychus* of Authors, p. 398)

*Labrorychus* Foerster of Catalog, and authors, not of type (*Labrorychus* Foerster of type is syn. of *Camposcopus* Foerster).

- \**Trichionotus* Cameron, 1905 (July). Straits Branch Roy. Asiatic Soc. 44: 124. Preocc. Syn. of *Labrorychus* authors (*teste* Townes, Townes, and Gupta, 1961, p. 316).

Type: *Trichonotus reticulatus* Cameron. By monotypy.

- \**Trichionotus* Cameron, 1905 (Aug.). Ann. Mag. Nat. Hist. (ser. 7) 16: 168 (syn. *teste* Townes, Townes, and Gupta, 1961, p. 316).

Type: *Trichionotus reticulatus* Cameron. By monotypy.

- \**Phaenolabrorychus* Viereck, 1913. U. S. Natl. Mus. Proc. 46: 379 (syn. *teste* Townes, Townes, and Gupta, p. 316).

Type: *Phaenolabrorychus anisitsi* Viereck. By monotypy and orig. desig.

- \**Paragrypon* Uchida, 1941. Ins. Matsumurana 15 (4): 159 (syn. *teste* Townes, 1957. Ent. Soc. Wash. Proc. 59 (3): 115).

Type: *Gongropelma kikuchii* Uchida. Orig. desig.

All species are n. combs. in *Trichionotus* Cameron.

- prismaticus** (Norton), n. comb. Maine, Que., N. H., Vt., N. B., Ohio, Ont., Minn. Hosts: *Archips cerasivoranus* (Fitch); *Ostrinia nubilalis* (Hbn.); *Pyrausta penitalis* Grt.

Genus **HABRONYX** Foerster

*Habronyx* Foerster, 1860. Naturh. Ver. Rheinlande Verh. 17: 145.

Type: *Habronyx gravenhorstii* Foerster. By monotypy.

Place on p. 398, before *Atrometus* Foerster.

- fuliginosus** (Davis), n. comb. Transf. from *Gravenhorstia*, p. 397.  
**magniceps** (Cresson), n. comb. Transf. from *Gravenhorstia* Boie, p. 397.

Genus **ATROMETUS** Foerster, p. 398

- \**Parania* Morley, 1913. Revis. Ichn. Brit. Mus. v. 2, pp. 50, 96 (syn. *teste* Townes, Townes, and Gupta, 1962, p. 316).

Type: *Parania nototrachoides* Morley. By monotypy.

- clavipes** (Davis). Host: *Argyrotaenia velutinana* (Wlkr.).

\*Tribe **THERIONINI**

(= Subtribe *Therionina* of Catalog)

Genus **THERION** Curtis, pp. 399-400

- fuscipenne** (Norton).

*Therion verticale* (Morley) (syn. *teste* Townes, 1961. Ent. Soc. Wash. Proc. 63 (2): 106).

- neglectum** (Morley). Townes places this sp. in *Gravenhorstia* Boie (1961, Ent. Soc. Wash. Proc. 63 (2): 106). Probably belongs in *Eri-gorgus* Foerster as treated in this supplement.

- sassacus** Viereck. Host: *Pseudaletia unipunctata* (Haw.).

*tenuipes* (Norton).

\**Exochilum diabolus* Morley, 1913. Revis. Ichn. Brit. Mus., Pt. 2, pp. 71, 73. ♀. (Syn. *teste* Townes, 1961. Ent. Soc. Wash. Proc. 63 (2): 106.)

*verticale* (Morley). Syn. of *fuscipenne* (Norton).

### Tribe OPHIONINI

Genus OPHION Fabricius, pp. 401–402

*bifoveolatus* Brullé. Transf. to *Enicospilus* Stephens, p. 404.

*Ophion nigrovarius* Provancher. Remove from syn.; a valid sp.

*nigrovarius* Provancher. (Misspelled *nigrivarius* in Catalog.) A valid sp. (*teste* Townes, 1961. Ent. Soc. Wash. Proc. 63 (2): 106).

*Ophion novascotiae* (Morley) (syn. *teste* Townes, *loc. cit. supra*).

*novascotiae* (Morley). Syn. of *nigrovarius* Provancher, p. 402.

*stramineus* Taschenberg. Transf. to *Enicospilus* Stephens, p. 404 as syn. of *bifoveolatus* (Brullé).

Genus CHILOPHION Cushman, p. 403

*abnormus* (Felt). Wyo.

Genus ENICOSPILUS Stephens, pp. 403–405

*Dicamptus* Szépligeti, 1905. Delete from syn. Valid genus.

*Amesospilus* Enderlein, 1918 (1914–1916). Change type citation to:

*Ophion unicallosus* Vollenhoven. Orig. desig.

*americanus* (Christ).

\**Ophion rugosus* Brullé, 1846. Hist. Nat. Ins. Hym., v. 4, p. 138 (syn. *teste* Townes, 1961. Ent. Soc. Wash. Proc. 63 (2): 111).

*bifoveolatus* (Brullé). Transf. from *Ophion* Fabricius, p. 402 (*teste* Townes, 1961. Ent. Soc. Wash. Proc. 63 (2): 111).

*Ophion stramineus* Taschenberg. Transf. from *Ophion* Fabricius, p. 402 (syn. *teste* Townes, *loc. cit. supra*).

*cubitalis* (Morley), preocc. Syn. of *glabratus* (Say).

*excubitalis* Walkley. Syn. of *glabratus* (Say).

*glabratus* (Say).

*Enicospilus cubitalis* (Morley). Preocc. Syn.

*Enicospilus excubitalis* Walkley. N. name. (Syn. *teste* Townes, 1961. Ent. Soc. Wash. Proc. 63 (2): 103.)

### Subfamily MESOCHORINAE

Genus ASTIPHROMMA Foerster, p. 405

*strenuum* (Holmgren). Host (secondary?): *Melanolophila imitata* Wlkr.

Alphabetic List of Unplaced Species, pp. 407–409, Sup. 1, p. 62

*Cryptus cinctipes* Walsh. Transf. to *Ischnus* Gravenhorst, p. 270, placing alphabetically.

*Cryptus rhomboidalis* Walsh. Transf. to *Ischnus* Gravenhorst, p. 270, placing alphabetically.

*Cryptus rufifrons* Walsh. Transf. to *Habrocryptoides* Uchida (to be placed on p. 271).

*Cryptus semirufus* Brullé. Transf. to *Cubocephalus* Ratzeburg, p. 255, placing alphabetically.

*Eriborus triannulatus* Cameron. Transf. to *Campoplex* Gravenhorst, p. 362.

*Exolytus concamerus* Davis. Transf. to *Oxytorus* Foerster (= *Callidiotes* Foerster) as syn. of *antennatus* (Cresson), p. 340.

- Hemiteles clipeator* Lundbeck. Transf. to *Symplecis* Foerster, p. 343.  
*Hemiteles gastricus* Holmgren. Transf. to \**Charitopes* Foerster.  
*Ichneumon astutus* Holmgren. Transf. to *Cratichneumon* Thomson, p. 287.  
*Ichneumon banchiformis* Megerle. Transf. to *Cryptanura* Brullé, p. 265.  
*Ichneumon lugubator* Gravenhorst. Transf. to \**Thyrateles* Perkins (to be placed on p. 296).  
*Ichneumon nigrosignatus* Viereck. Transf. to *Coelichneumon* Thomson, placing alphabetically.  
*Labrorychus relictus* (Fabricius). Transf. to *Barylypa* Foerster, p. 396.  
*Limnerium hospitum* Holmgren. Transf. to *Diadegma* Foerster (= *Horo-genes* of Catalog, p. 378).  
*Phygadeuon plectiscinus* Roman. Transf. to \**Charitopes* Foerster.  
*Pseudamblyteles peroratus* Cameron. Transf. to *Ichneumon* Linnaeus (= *Pterocormus* Foerster of Catalog), p. 300.  
*Trogus atrocoeruleus* Cresson. Transf. to \**Protopelmus* Heinrich (to be placed on p. 296).

## Superfamily CHALCIDOIDEA

- Taxonomy: Bouček in Kratochvil, 1957. Klíč Zvíř. Č. S. R., v. 2, pp. 204-245, 269-288.—Ferrière and Kerrich, 1958. Handb. Ident. Brit. Ins. (Roy. Ent. Soc. London), v. 8, pt. 2a, 40 pp.—Nikolskaja, 1952 (Eng. trans. 1963). Keys to Fauna U.S.S.R. 44, 593 pp. (N. S. F.-Smiths. Inst. pub., OTS 61-31220, U. S. Dept. Comm.).—Peck, 1963. Canad. Ent. Sup. 30, 1092 pp. (catalog).—Burks, 1964 (1963). Canad. Ent. 95: 1254-1263 (Provancher spp.).  
 Biology: Clausen, 1956. U. S. Dept. Agr. Tech. Bul. 1139, 151 pp. (biological control).—Keen, 1958. U. S. Dept. Agr. Tech. Bul. 1169, pp. 93-112 (seed and cone ins. of forest trees).—Schaffner, 1959. U. S. Dept. Agr. Misc. Pub. 767, 97 pp. (lepidopterous hosts and par.).—Hedqvist, 1963. Stud. Forest. Suecica, no. 11, pp. 7-28 (par. of beetles in bark and wood).

## Family MYMARIDAE

- Taxonomy: Debauche, 1948. Mus. Roy. Hist. Nat. Belg. Mem. 108: 1-248.—Debauche, 1949. Cong. Belg., Inst. Parcs Nat., Expl. Parc Nat. Albert, Miss. de Witte, pt. 49, pp. 1-105.—Annecke and Doutt, 1961. So. Afr. Dept. Agr. Tech. Ser. Ent. Mem. 5: 1-71 (generic classific.).

### Genus OOCOTONUS Haliday, pp. 410-411

- americanus* Girault. N. J., Ohio. Host: Eggs *Philaenus leucophthalmus* (Linn.).  
*aphrophorae* Milliron. Ohio.

### Genus COSMOCOMOIDEA Howard, p. 411

- Taxonomy: Debauche, 1948, *loc. cit. supra*, p. 114 (syn. of *Ooctonus* Haliday).—Ogloblin, 1959. Münch. Ent. Ges. Mitt. 49: 50 (subg. of *Lymaenon* Walker).  
*morrilli* Howard. Ga., Tex.; Mexico, Cent. Amer. Host: *Homalodisca coagulata* (Say).

### Genus CAMPTOPTERA Foerster, p. 411

- \**Stichothrix* Foerster, 1856. Hym. Stud., v. 2, pp. 117-121.

Type: *Stichothrix cardui* Foerster. By monotypy.

\**Congolia* Ghesquière, 1942. Rev. Zool. Bot. Afr. 36: 320.

Type: *Congolia sycophila* Ghesquière. By monotypy.

Taxonomy: Debauche, 1949, *loc. cit. supra*, pp. 4, 17.—Annecke and Doutt, 1961, *loc. cit. supra*, p. 15.

Genus *GONATOCERUS* Nees, pp. 411–413

(= Genus *Lymaenon* Haliday, Sup. 1, p. 63, cited in error)

\**Rachistus* Foerster, 1847. Linn. Ent., v. 2, p. 203.

Type: *Ooctonus litoralis* Haliday. Desig. by Gahan and Fagan, 1923.

\**Oophilus* Enock, 1909. Roy. Ent. Soc. London Trans. 1909, p. 458.

Type: *Oophilus longicauda* Enock. By monotypy.

Taxonomy: Debauche, 1949, *loc. cit. supra*, pp. 4, 25 (*Lymaenon*).

*ashmeadi* Girault. Ga., Miss., La., Tex. Hosts: Eggs *Oncometopia orbona* (Fab.), *Homalodisca coagulata* (Say), *Cuernia costalis* (Fab.).

*fasciatus* Girault. Ga. Host: *Homalodisca coagulata* (Say).

*koebele* Perkins. Fla.; Mexico.

*marylandicus* Girault. Ga. Host: *Gypona* sp.

*novifasciatus* Girault. Ga. Host: *Graphocephala versuta* (Say).

\**triguttus* Girault. Tex.; West Indies. Host: Leafhopper eggs.

*Gonatocerus triguttus* Girault, 1916. Ent. Soc. Amer. Ann. 9: 297. ♀, ♂.

Genus *ALAPTUS* Haliday, p. 413

\**Parvulinus* Mercet, 1912. R. Soc. Esp. Hist. Nat. Bol. 12: 331.

Type: *Parvulinus auranti* Mercet. By monotypy.

Taxonomy: Girault, 1912. Ent. Soc. Wash. Proc. 14: 221.—Debauche, 1949, *loc. cit. supra*, p. 9.

\**auranti* (Mercet). La.; Europe. Hosts: Several spp. of Coccidae questionably recorded; true hosts prob. Psocoptera.

*Parvulinus auranti* Mercet, 1912. R. Soc. Esp. Hist. Nat. Bol. 12: 333. ♀.

*Metalaptus torquatus* Malenotti (syn. by Mercet, 1917. Asoc. Esp. Prog. Ciencia, Cong. de Valladolid, sect. 4, p. 367).

*torquatus* (Malenotti). Syn. of *auranti* (Mercet).

Genus *ERYTHMELUS* Enock, pp. 413–414

\**Enaesius* Enock, 1909. Roy. Ent. Soc. London Trans. 1909, p. 456.

Type: *Enaesius agilis* Enock. Desig. by Gahan and Fagan, 1923.

Taxonomy: Annecke and Doutt, 1961, *loc. cit. supra*, p. 18.

Genus *PATASSON* Walker, p. 414

\**Antoniella* Soyka, 1950. Ent. Nachr. Burgdorf 3: 121.

Type: *Fulmekiella stubaiensis* Soyka. Orig. desig.

\**Mariella* Soyka, 1950. Ent. Nachr. Burgdorf 3: 123.

Type: *Mariella superaddita* Soyka. Orig. desig.

Taxonomy: Debauche, 1948, *loc. cit. supra*, p. 172 (*Patasson* a subg. of *Anaphes* Haliday).—Annecke and Doutt, 1961, *loc. cit. supra*, p. 21 (syn.).

*conotrachel* (Girault). Delete *luna* Girault from syn.

*luna* (Girault). N. Y., N. J., Del., Md., Utah; Europe. Host: *Hypera postica* (Gyll.) eggs.

*Anaphoidea luna* Girault, 1914. Erroneously placed as a syn. of *conotrachel* (Girault) in Catalog. Types re-examined.

Biology: Clausen, 1956, *loc. cit. supra*, p. 116.

Genus *ANAGRUS* Haliday, p. 415

*Pteratomus* Packard, 1864. Transf. from *Unplaced Genera*, p. 593.

\**Packardiella* Ashmead, 1904. Carnegie Mus. Mem. 1: 364. N. name,



unnecessarily proposed, for *Pteratomus* Packard.

\**Paranagrus* Perkins, 1905. Hawaii. Sug. Pl. Assn. Bul., Ent. Ser., 1: 199.

Type: *Paranagrus optabilis* Perkins. Desig. by Gahan and Fagan, 1923.

Taxonomy: Annecke and Doutt, 1961, *loc. cit. supra*, p. 7.

*armatus nigriceps* Girault. Calif. Host: *Edwardsiana prunicola* (Edw.).

Biology: Mulla, 1956. Jour. Econ. Ent. 49: 438.

*epos* Girault. Fla. Hosts: *Edwardsiana prunicola* (Edw.), *Typhlocyba quercus* (F.).

Biology: Mulla, 1956. Jour. Econ. Ent. 49: 438.

*giraulti* Crawford. Ga., Ala. Host: *Homalodisca coagulata* (Say).

*putnamii* (Packard). Transf. from **Unplaced Species**, Sup. 1, p. 84.

Taxonomy: Annecke and Doutt, 1961, *loc. cit. supra*, p. 8.

#### Genus ANAPHES Haliday

(= *Mymar* Curtis of Catalog, pp. 415-416)

\**Clinomymar* Kieffer, 1913. Soc. Agr. Alger. Bul. 4: 100.

Type: *Clinomymar peyerimhoffi* Kieffer. Orig. desig.

\**Stammeriella* Soyka, 1950. Ent. Nachr. Burgdorf 3: 120.

Type: *Stammeriella wolfsthalii* Soyka. Orig. desig.

Taxonomy: Debauche, 1949, *loc. cit. supra*, p. 63.—Annecke and Doutt, 1961, *loc. cit. supra*, pp. 18-20.

Application was made to Int. Comn. Zool. Nomencl. to preserve usage of *Mymar* Curtis in traditional sense. This requires substitution of **Anaphes** (Type: *Ichneumon punctum* Shaw) for *Mymar* of Catalog, and *Mymar* for *Mymarilla* of Catalog. See Doutt and Annecke, 1963, Bul. Zool. Nomencl. 20: 134-136. Opinion 729, Bul. Zool. Nomencl., 22: 82, 1965 authorizes this change, so traditional usages are restored in this Catalog for **Anaphes** Haliday and *Mymar* Curtis.

\**alaskae* Annecke and Doutt. Alaska.

*Anaphes alaskae* Annecke and Doutt, 1961. So. Afr. Dept. Agr. Tech. Ser. Ent. Mem. 5: 47. ♀, ♂.

*iole* Girault. Calif.

*pratensis* Foerster.

Biology: Clausen, 1956, *loc. cit. supra*, p. 116.

#### Genus ACMOPOLYNEMA Ogloblin, p. 416

*bifasciatipenne bifasciatipenne* (Girault), corrected spelling of *bifasciatipennis bifasciatipennis* of Catalog.

*bifasciatipenne varium* (Girault), corrected spelling of *bifasciatipennis varium* of Catalog.

#### Genus BARYPOLYNEMA Ogloblin, p. 416

Taxonomy: Annecke and Doutt, 1961, *loc. cit. supra*, p. 60.

\**medicae* Annecke and Doutt. D. C., Calif.

*Barypolynema medicae* Annecke and Doutt, 1961. So. Afr. Dept. Agr. Tech. Ser. Ent. Mem. 5: 57. ♀, ♂.

#### Genus POLYNEMA Haliday, pp. 416-418

\**Maidliella* Soyka, 1946. Zentbl. Ges. Ent. 1: 178.

Type: *Maidliella neofuscipes* Soyka. Orig. desig.

\**Novickyella* Soyka, 1946. Zentbl. Ges. Ent. 1: 179.

Type: *Novickyella gracilior* Soyka. Orig. desig.

Delete *Stephanodes* Enock from syn.

Taxonomy: Soyka, 1956. Zool.-Bot. Ges. Wien Abhandl. 19: 32.—Annecke and Doutt, 1961, *loc. cit. supra*, pp. 34-36, 60.

Nomenclature: Peck, 1963, *loc. cit. supra*, pp. 42-49 (sp. names changed to neuter case).

**bimaculatipenne** Girault, corrected spelling of *bimaculatipennis* of Catalog.

**boreum** Girault, new status. Delete from syn. under *striaticorne* Girault, as var. *boreum* Girault, 1916, and ch. to valid sp., *teste* D. P. Annecke, *in litt.*

**caesariatipenne** Girault, corrected spelling of *caesariatipennis* of Catalog.

**graculus** Girault. [Name from L. subst., *graculus*, a jackdaw.]

**mymaripenne** Dozier, corrected spelling of *mymaripennis* of Catalog.

**psecas** Girault. Transf. to *Stephanodes* Enoch.

**striaticorne** Girault. Delete *striaticorne* var. *boreum* Girault from syn., and ch. to sp.

#### Genus STEPHANODES Enoch

Delete from syn. of *Polynema* Haliday, *teste* Annecke and Doutt, 1961, *loc. cit. supra*, p. 34-35. Insert following *Polynema* Haliday on p. 418.

**psecas** (Girault), n. comb. Ill., Iowa. Trans. from *Polynema* Haliday; types examined.

#### Genus CARAPHRACTUS Haliday, p. 418

**cinctus** Haliday. N. W. T. (Southampton Isl.). Hosts: Eggs of Dytiscidae. Biology: Jackson, 1958. Roy. Ent. Soc. London Trans. 110: 533-566.

#### Genus NEOMYMAR Crawford, p. 418

**vierecki vierecki** Crawford. Fla., Iowa.

#### Genus MYMAR Curtis

(= *Mymarilla* of Catalog, pp. 418-419)

\**Pterolinononyktera* Maláč, 1943. Ent. listy (Folia Ent.) Brno 6: 51.

Type: *Pterolinononyktera obenbergeri* Maláč. Orig. desig.

Taxonomy: Annecke and Doutt, 1961, *loc. cit. supra*, pp. 26-29.

Application was made to Int. Comn. Zool. Nomencl. to preserve traditional usage of *Mymar* Curtis (Type: *Mymar pulchellum* Curtis). See Doutt and Annecke, 1963, *loc. cit. supra*, pp. 134-136. Opinion 729, Bul. Zool. Nomencl. 22: 82, 1965 takes favorable action on this application, so traditional usage for *Mymar* Curtis is restored in this Catalog. *Mymarilla* Westwood is a valid, but extralimital genus, different from *Mymar*, *teste* Annecke and Doutt, 1961, *loc. cit. supra*, pp. 31-32.

**cincinnati** Girault.

Taxonomy: Annecke, 1961. So. Afr. Jour. Agr. Sci. 4: 551-552 (prob. syn. of *Mymar regale* Enoch).

\**pulchellum* Curtis. Pa.; Europe.

*Mymar pulchellus* Curtis, 1832. Brit. Ent. 9: 411. ♀, ♂.

*Mymar venustum* Girault, 1911 (syn. by Annecke, 1961, *loc. cit. supra*, pp. 550-551).

**venustum** Girault. Syn. of *pulchellum* Curtis.

#### Genus ARESCON Haliday, p. 419

\**Xenomymar* Crawford, 1913. U. S. Natl. Mus. Proc. 46: 349.

Type: *Xenomymar urichi* Crawford. Orig. desig.

\**Neurotes* Enoch, 1914. Roy. Ent. Soc., London, Proc. 1913, p. cxxxiv.

Type: *Neurotes iridescens* Enoch. By monotypy.

Taxonomy: Annecke and Doutt, 1961, *loc. cit. supra*, p. 12.

## Family TRICHOGRAMMATIDAE

#### Genus TRICHOGRAMMA Westwood, pp. 419-421

Taxonomy: Quednau, 1956. Ber. Hundertjahr. Deut. Ent. Ges. Berlin, pp. 87-92.—Quednau, 1956. Ztschr. Pflanzenkrank. und Pflan-

zensch. 63: 333-344.—Quednau, 1960. Biol. Bund. für Land-und Forstwirtschaft. Mitt. 100: 11-50.

*evanescens* Westwood. Delete; valid but extralimital sp., *teste* Quednau, 1960, *loc. cit. supra*, p. 31.

\**fasciatum* (Perkins). Fla., La., South. Tex.; Mexico, West Indies, Cent. and S. America.

*Pentarthron fasciatum* Perkins, 1912. Hawaii. Sugar Planters' Assn., Ent. Ser. Bul. 10, p. 19.

Biology: Burrell and McCormick, 1962. Jour. Econ. Ent. 55: 880.

Taxonomy: Quednau, 1960, *loc. cit. supra*, p. 33.

*minutum* Riley. South. Canada and U. S. north of Gulf Coast. Hosts: Eggs of over 160 spp., mostly Lepidoptera.

Biology: Langston, 1957. Univ. Calif. Pubs., Ent. 14: 25-26.—Downey, 1958 (1957). Ill. State Acad. Sci. Trans. 50: 299.—Schaffner, 1959, *loc. cit. supra*, p. 81.—Glass, 1963. Ent. Soc. Amer. Ann. 56: 564.

Taxonomy: Quednau, 1960, *loc. cit. supra*, p. 34.

*retorridum* (Girault). Southwest. U. S. north to Iowa.

Taxonomy: Quednau, 1960, *loc. cit. supra*, p. 31.

\**semifumatum* (Perkins). South. Tex., South. Calif.; Mexico, Hawaii.

*Pentarthron semifumatum* Perkins, 1910. Fauna Hawaii., vol. 2, pt. 6, p. 659. ♀.

Biology: Hinckley, 1961. Jour. Econ. Ent. 54: 207.—Stern and Bowen, 1963. Ent. Soc. Amer. Ann. 56: 358-372.—Poinar, 1964. Jour. Econ. Ent. 57: 381.

Taxonomy: Quednau, 1960, *loc. cit. supra*, p. 33.

*semblidis* (Aurivillius). Ont. and N. Y. west to Sask.; Europe. Hosts: Eggs of aquatic and subaquatic insects.

Biology: Quednau, 1957. Deut. Ent. Ztschr. 4: 364.

Taxonomy: Quednau, 1960, *loc. cit. supra*, p. 29.

#### Genus APHELINOIDEA Girault, p. 421

*plutella* Girault.

Biology: Henderson, 1955. U. S. Dept. Agr. Cir. 967, pp. 1-16.—Flock *et al.*, 1962. Jour. Econ. Ent. 55: 279.

#### Genus LATHROMEROIDES Girault, pp. 421-422

*neomexicanus* Girault. Iowa, Calif.

#### Genus OLIGOSITA Haliday, pp. 422-423

*americana* Girault. Ga. Host: *Homalodisca insolita* (Walk.).

*sanguinea sanguinea* (Girault). Calif.

#### Genus UFENS Girault, p. 423

*niger* (Ashmead). Ga., Utah, Wash., Calif. Hosts: *Colladonus geminatus* (Van Duzee), *Cuerna costalis* (Fab.), *Keonolla confluens* (Uhl.).

\**osborni* Dozier. Fla.; West Indies. Hosts: Eggs of *Pachnaeus litus* (Germ.), *Diaprepes abbreviatus* (L.) ? secondary.

*Ufens osborni* Dozier, 1932. Ent. Soc. Wash. Proc. 34: 36. ♀, ♂.

Biology: Tucker, 1936. Barbados Agr. Jour. 5: 9.—Baranowski, 1960. Fla. Ent. 43: 197.

*spiritus americanus* Girault. Ga. Host: *Homalodisca coagulata* (Say).

*spiritus spiritus* Girault. Ga., Fla. Hosts: *Homalodisca coagulata* (Say), *Oncometopia orbona* (Fab.).

#### Genus HYDROPHYLITA Ghesquière, pp. 423-424

In generic ref. change v. 34 to v. 39.

**aquivolans** (Matheson and Crosby). Ohio, Kans. Host: Eggs of *Ischnura verticalis* (Say).

Biology: Davis, 1962. *Limnol. and Oceanog.* 7: 390-392.

Genus **ABBELLA** Girault, pp. 424-425

**acuminata** (Ashmead). Ga., La., Minn., Tex., Calif. Hosts: *Cuerna costalis* (Fab.), *Draeculacephala portola* (Ball), *Homalodisca insolita* (Walk.).

**ceresarum** (Ashmead). Calif.

**subflava** Girault.

Biology: Henderson, 1955. U. S. Dept. Agr. Cir. 967, pp. 1-16.—Flock *et al.*, 1962. *Jour. Econ. Ent.* 55: 279.

## Family EULOPHIDAE

### Subfamily EULOPHINAE

Genus **PNIGALIO** Schrank, pp. 425-426

**flavipes** (Ashmead). Ohio, Minn.

**maculipes** (Crawford). N. B., Que. Hosts: *Phytagromyza populicola* (Walk.), *Bucculatrix ainsliella* Murt., *B. packardella* Chamb.

Biology: Schaffner, 1959, *loc. cit. supra*, p. 81.

**pallipes** (Provancher). Ont. Transf. from *Eulophus* Olivier *teste* Burks, 1964, *loc. cit. supra*, p. 1257.

**tischeriae** (Ashmead). Ont. Host: *Lithocolletis salicifoliella* Clem.

Genus **SYMPIESIS** Foerster, pp. 426-428

\**Teleogmus* Foerster, 1856. *Hym. Stud.*, v. 2, pp. 72, 74.

Type: *Teleogmus orbitalis* Foerster. By monotypy.

\**Moroceras* Erdős, 1962. *Mus. Nat. Hung. Ann. Hist.-Nat.*, n. s., 5: 323.

Type: *Moroceras biroi* Erdős. Orig. desig.

\**Sympiesis* subg. *Cladosympiesis* Graham, 1959. *Soc. Brit. Ent. Trans.* 13: 182.

Type: *Eulophus gordius* Walker. Orig. desig.

Taxonomy: Bouček, 1959. *Mus. Nat. Pragae Acta Ent.* 33: 121 (subgen-  
era).—Delucchi, 1962. *Awamia* 5: 60 (disc. of *Moroceras* Erdős).

—Graham, 1963. *Soc. Brit. Ent. Trans.* 15: 187 (syn.).

**ancylae** Girault. Minn.

Biology: Balduf, 1959. *Ill. Biol. Monog.* 26, p. 146.

**bimaculatipennis** (Girault). Ont., Wis., Minn., Oreg., Calif.

**compressicornis** (Provancher). N. S., Maine and Ont. south to Va. west to Kans., Idaho, and Oreg. Hosts: *Lithocolletis crataegella* Clem., *L. salicifoliella* Chamb., *L. caryaefoliella* (Clem.), leaf miners on *Amelanchier*, maple, oak, black cherry.

*Sympiesis nigripes* Ashmead, 1888 (syn. by Burks, 1964, *loc. cit. supra*, p. 1257).

**conica** (Provancher). Que. and Maine south to D. C., west to Idaho and Tex. Hosts: Listed under *nigrifemora* Ashmead in Catalog, p. 427.

*Sympiesis nigrifemora* Ashmead, 1888 (syn. by Burks, 1964, *loc. cit. supra*, p. 1259).

Biology: Schaffner, 1959, *loc. cit. supra*, p. 81 (*nigrifemora*).

**dolichogaster** Ashmead. Holarctic.

Taxonomy: Bouček, 1959. *Mus. Nat. Pragae Acta Ent.* 33: 130.

**guttatipennis** Girault. Mass., N. C. Host: *Exoteleia pinifoliella* (Chamb.).

Biology: Schaffner, 1959, *loc. cit. supra*, p. 81.

**lexingtonensis** Girault. Syn. of *miltoni* Girault.

**marylandica** Girault. Wis., Minn.

**miltoni** Girault. Maine south to W. Va., west to Wis. and Ky. Hosts: *Lithocolletis* spp.

*Sympiesis milt. oni* Girault, May 1917.

*Sympiesis lexingtonensis* Girault, Aug. 1917. N. syn.; types examined.

**nigrifemora** Ashmead. Syn. of **conica** (Provancher).

**nigripes** Ashmead. Syn. of **compressicornis** (Provancher).

**stigmata** Girault. Oreg. Host: Leafminer on apple.

**tricladius** (Provancher). Transf. from **Eulophus** Olivier *teste* Burks, 1964, *loc. cit. supra*, p. 1258.

**viridula** (Thomson). Ont. and N. Y. west to Mo. and Wyo.

Biology: Clausen, 1956, *loc. cit. supra*, pp. 129-130.

**Genus NECREMNUM Thomson, p. 428**

**comptus** Gahan.

Taxonomy: Bouček, 1959. Mus. Nat. Pragae Acta Ent. 33: 150 (? syn. of *artynes* Walker).

**duplicatus** Gahan. Idaho.

Biology: Walz, 1957. Ent. Soc. Amer. Ann. 50: 220.

Taxonomy: Bouček, 1959, *loc. cit. supra*, p. 152 (? syn. of *tidius* Walker).

**Genus HEMIPTARSENUS Westwood, p. 428**

\***Cleolophus** Mercet, 1924. R. Soc. Esp. Hist. Nat. Bol. 24: 461-462.

Type: **Cleolophus autonomus** Mercet. Orig. desig.

Taxonomy: Bouček, 1959. Mus. Nat. Pragae Acta Ent. 33: 144 (syn.).—Hedqvist, 1963, *loc. cit. supra*, p. 142.

**\*Genus DIGLYPHUS Walker**

(= *Solenotus* Foerster of Catalog, p. 429)

**Diglyphus** Walker, 1844. Ann. Mag. Nat. Hist. 14: 409.

Type: **Cirrospilus chabrias** Walker. By monotypy.

Taxonomy: Ferrière, 1952. Soc. Venez. Stor. Nat. Bol. 6: 176 (*viridis* Foerster, type sp. of *Solenotus* Foerster = *Cirrospilus isaea* Walk.).—Graham, 1959. Soc. Brit. Ent. Trans. 13: 178 (*isaea* Walk. transf. to *Diglyphus* Walk.).

**begini** (Ashmead). Que. Host: *Phytomyza atricornis* Meigen, *P. aquilegiae* Hardy.

Biology: Doutt, 1957. Jour. Econ. Ent. 50: 373-374.

**intermedius** (Girault). Fla., Ill. Host: *Liriomyza propepusilla* Frost.

**Genus EULOPHUS Olivier, Sup. 1, p. 64**

(= *Eulophus* Geoffroy of Catalog, pp. 430-431)

\***Comedo** subg. **Onychocomedo** Graham, 1959. Soc. Brit. Ent. Trans. 13: 183.

Type: **Eulophus thespius** Walker. Orig. desig.

Taxonomy: Bouček, 1959. Mus. Nat. Pragae Acta Ent. 33: 160.—Gijs-wijt, 1964. Ent. Ber. 24: 31 (*Eulophus* Müller, 1764).

**anomocerus** (Crawford). Que., Ont., N. Y., Va., Mich., N. Dak.

**magnisulcatus** Girault. Maine south to W. Va. Host: *Coleophora laricella* Hbn.

Biology: Schaffner, 1959, *loc. cit. supra*, p. 81.

**nebulosus** (Provancher). Ont. and Mass. south to Fla., west to Wis.

Taxonomy: Burks, 1964, *loc. cit. supra*, p. 1259.

**orgyiae** (Fitch). Que., Miss., Wis., Wash., Oreg., Calif. Hosts: *Acrionicta grisea* Walk., *Alsophila pometaria* Hbn., *Gracillaria rhoifoliella* Cham., *Gluphisia septentrionis* Walk., *Hemerocampa plagiata* Walk., *Orthosia hibisci* Gn.

**pallipes** (Provancher). Transf. to **Pnigalio** Schrank; delete **smerinithi** Ashmead from syn.

**smerinithi** (Ashmead). Correct name for species listed as **pallipes** Provancher in Catalog *teste* Burks, 1964, *loc. cit. supra*, p. 1257.

**tricladius** Provancher. Transf. to **Sympiesis** Foerster.

#### Genus DAHLBOMINUS Hincks, p. 431

**fuscipennis** (Zetterstedt). Md., Va., Ill., Mo., Minn.; Europe. Hosts: *Neodiprion lecontei* (Fitch), *N. nanulus* Schedl, *N. pinetum* (Nort.), *N. pratti* (Dyar), *N. sertifer* (Geof.), *N. tsugae* Midd., *Pristiphora erichsoni* (Htg.).

Biology: Burnett, 1956. Ent. Soc. Amer. Ann. 49: 55.—Clausen, 1956, *loc. cit. supra*, p. 101-102.—Riordan, 1957. Canad. Jour. Zool. 35: 603.—Burnett, 1958. Canad. Ent. 90: 279.—Finlayson and Finlayson, 1958. Canad. Ent. 90: 558.—Finlayson, 1960. Canad. Ent. 92: 38 (*fuliginosus* (Nees) [!]).—Szmids, 1960. Anz. f. Schädling. 33: 20.—Szmids, 1961. Poznan. Wyzsza Skola Roln. Roczn. Dodatek 6: 11.—Bobb, 1962. Brooklyn Ent. Soc. Bul. 57: 102.—Finlayson, 1963. Canad. Ent. 95: 498.—Morris, Schroeder, and Bobb, 1963. Pine Sawfly in Va., Va. Div. For., pp. 15-16.

Taxonomy: Finlayson, 1960, *loc. cit. supra*, pp. 37, 38, 44 (imm. stages).

Genetics: Wilkes, 1964. Science 144: 305-307 (*fuliginosus* (Nees) [!]).

#### Genus DIMMOCKIA Ashmead, p. 431

**incongrua** (Ashmead). Ont. and Mass. south to Fla., Ohio, W. Va., Ill. Hosts: *Anacampsis innocuella* (Zell.), *Argyrotoxa semipurpurana* (Kearf.), *Episimus argutatus* (Clem.); almost always a secondary par.

Biology: Schaffner, 1959, *loc. cit. supra*, p. 82.

**pallipes** Muesebeck. Ill., Wis. Hosts: *Exartema ferriferanum* (Walk.); *Sparganothis pettitana* (Rob.); prob. always secondary.

#### Genus DICLADOCERUS Westwood, p. 431

\***Diglyphis** Thomson, 1878. Hym. Scand., v. 5, p. 208. [Not *Diglyphus* Walker.]

Type: **Diglyphis aeniscapus** Thomson. Desig. by Gahan and Fagan, 1923.

Taxonomy: Graham, 1959. Soc. Brit. Ent. Trans. 13: 180.

#### Subfamily APHELININAE

Taxonomy: Flanders, 1955. Ent. Soc. Amer. Ann. 46: 84-93 (biol. criteria in tax.).—Compere and Annecke, 1961. Ent. Soc. S. Afr. Jour. 24: 19-20 (fam. Aphelinidae).—Peck, 1963, *loc. cit. supra*, p. 239 (fam. Aphelinidae).

#### Genus ERETMO CERUS Haldeman, p. 432

**haldemani** Howard. Ill. Host: *Trialeurodes abutilonea* (Hald.).

\***portoricensis** Dozier. Fla.; West Indies. Host: *Aleurothrixus floccosus* (Mask.).

**Eretmocerus portoricensis** Dozier, 1932. Ent. Soc. Wash. Proc. 34: 115. ♀.

#### Genus EUDEROMPHALE Girault, p. 432

(= *Cardiogaster* Motschulsky, Sup. 1, p. 64, cited in error)

Taxonomy: Compere and Annecke, 1961. Ent. Soc. S. Afr. Jour. 24:

65-68 (*Cardiogaster* in Eulophidae).—Peck, 1963, *loc. cit. supra*, p. 238 (*Cardiogaster* in Entedontinae). Graham, 1963. Soc. Brit. Ent. Trans. 15: 273 (*Euderomphale* in Entedontinae).

\**hyalina* (Compere and Annecke), n. comb. Calif. Host: *Aleurodes* sp.  
*Cardiogaster hyalina* Compere and Annecke, 1961. Ent. Soc. S. Afr. Jour. 24: 68. ♀.  
Biology: Poinar, 1964. Jour. Econ. Ent. 57: 382.

Genus **ARCHENOMUS** Howard, p. 432

(= *Pteroprix* Westwood of Sup. 1, p. 64)

Taxonomy: Alam, 1956. Roy. Ent. Soc., London, Trans. 108: 374.—Novitzky, 1961. Ent. Monthly Mag. 97: 193.—Peck, 1963, *loc. cit. supra*, pp. 241, 287.

Genus **MARIETTA** Motschulsky, p. 433

*carnesi* (Howard). D. C.; Japan, China, India.  
Biology: Azim, 1961. Mushi 35: 107.

\**graminicola* Timberlake. Md., Fla., Tex.; Hawaii. Hosts: *Anagyrus antoninae* Timb., poss. other primary parasites of grass scales.

*Marietta graminicola* Timberlake, 1925. Hawaii. Ent. Soc. Proc. 6: 180.  
♀, ♂.

Biology: Dean and Schuster, 1958. Jour. Econ. Ent. 51: 364.

*mexicana* (Howard). Md. Host: *Thysanus merceti* (Malen.).  
Biology: DeBach, Kennett, and Pence, 1958. Jour. Econ. Ent. 51: 115.

*pulchella* (Howard). Sask. Hosts: Sec. parasite on Coccidae.  
Biology: Peterson, 1962. Canad. Ent. 94: 740.

Genus **MARLATTIELLA** Howard, Sup. 1, p. 65

*prima* Howard. Del.; Japan.

Taxonomy: Tachikawa, 1962. Shikoku Ent. Soc. Trans. 7: 74.

Genus **APHYTIS** Howard, pp. 433-434

Biology: DeBach, 1959. Ent. Soc. Amer. Ann. 52: 354-359 (biol. control).

*abnormis* (Howard).

Taxonomy: DeBach and Azim, 1962. Mushi 36: 1.

*chrysomphali* (Mercet).

Biology: Smith, 1957. Canad. Ent. 89: 219.—Muma, 1959. Jour. Econ. Ent. 52: 581.—DeBach and Sisojevic, 1960. Ecology 41: 153.

*citrinus* Compere. Host: ? *Aonidiella aurantii* (Mask.).

Taxonomy: DeBach, 1959, *loc. cit. supra*, pp. 360-361 (Japanese strain).

\**coheni* DeBach. Calif.; Israel. Hosts: *Aonidiella aurantii* (Mask.), *A. citrina* (Coq.), *Chrysomphalus dictyospermi* (Morg.).

*Aphytis coheni* DeBach, 1960. Ent. Soc. Amer. Ann. 58: 705. ♀, ♂.

Biology: Fleschner, 1963. Pan-Pacific Ent. 39: 116.

\**fisheri* DeBach. Calif.; Burma. Host: *Aonidiella aurantii* (Mask.).

*Aphytis fisheri* DeBach, 1959. Ent. Soc. Amer. Ann. 52: 362. ♀, ♂.

Biology: DeBach and Landi, 1959. Calif. Agr. 13: 9.

\**hispanicus* (Mercet). Fla., Tex., Calif.; Mexico, Europe, Orient. Hosts: *Parlatoria pergandii* Comst., ? *Aonidiella aurantii* (Mask.).

*Aphelinus maculicornis* var. *hispanica* Mercet, 1912. Mus. Cien. Nat. Madrid Trab., ser. Zool., 10: 81-82.

Taxonomy: Compere, 1955. Calif. Univ. Pubs., Ent. 10: 289, 294 (sp.).—DeBach, 1959, *loc. cit. supra*, pp. 359-360 (Assam form).

\**holoxanthus* DeBach. Fla., Tex.; China, Israel. Host: *Chrysomphalus aonidum* (L.).

*Aphytis holoxanthus* DeBach, 1960. Ent. Soc. Amer. Ann. 53: 704. ♀, ♂.  
Biology: Clancy *et al.*, 1963. Jour. Econ. Ent. 56: 603-605.

**lepidosaphes** Compere. Fla., Tex.; Mexico.

Biology: Clausen, 1956, *loc. cit. supra*, p. 83 (sp. X).—DeBach, 1959, *loc. cit. supra*, p. 355.—Dean, 1961. Ent. Soc. Amer. Ann. 54: 918.—DeBach and Landi, 1961. Hilgardia 31: 461.

**lingnanensis** Compere.

Biology: Clausen, 1956, *loc. cit. supra*, p. 82 (sp. A).—DeBach and Sisojevic, 1960, *loc. cit. supra*, p. 153.—DeBach and White, 1960. Calif. Agr. Expt. Sta. Bul. 770, p. 4.

Taxonomy: DeBach, 1959, *loc. cit. supra*, p. 360.

**maculicornis** (Masi).

Biology: Clausen, 1956, *loc. cit. supra*, p. 82.—Huffaker *et al.*, 1962. Hilgardia 32: 569.

Taxonomy: Douth, 1954. Jour. Econ. Ent. 47: 39-40.—Hafez and Douth, 1954. Canad. Ent. 86: 90.—Sugonyaev, 1962. Akad. Nauk SSSR Izv., ser. Biol., 5: 755.

**\*melinus** DeBach. Calif.; India, Pakistan. Host: *Aonidiella aurantii* (Mask.).

*Aphytis melinus* DeBach, 1959. Ent. Soc. Amer. Ann. 52: 361. ♀, ♂.

Biology: DeBach and Landi, 1959, *loc. cit. supra*, p. 9.

**mytilaspidis** (LeBaron).

Biology: Flanders, 1957. Jour. Econ. Ent. 50: 171 (Italian strain).—Flanders, 1960. Jour. Econ. Ent. 53: 757.—Tadič, 1961. Arh. za Poljopriv. Nauke 14: 118.—Tschumakova, 1961. Ent. Obozr. 40: 317.

Taxonomy: DeBach and Azim, 1962. Mushi 36: 1 (group char.).

**proelia** (Walker).

Taxonomy: DeBach, 1959, *loc. cit. supra*, p. 358 (*diaspidis* Howard).—Tschumakova, 1960. Leningrad. Vsesoi. Inst. Zash. Rast. Trudy 15: 57.—Benassy, 1961. Ann. Epiphyties, ser. C, 12: 115, 127.—Tschumakova, 1961, *loc. cit. supra*, p. 316.

**Genus APHELINUS** Dalman, pp. 434–435**mali** (Haldeman).

Biology: Evenhuis, 1958. Tijdschr. Plantenziekten 64: 3.—Lung, Wang, and Tang, 1960. Acta Ent. Sinica 10: 6.—Evenhuis, 1962. Entomophaga 7: 215.

**nigritus** Howard. Ill., Okla., Tex. (northern loc. in greenhouses).

Biology: Wood, 1958. Jour. Econ. Ent. 51: 553.

**semiflavus** Howard. [Prob. a composite sp.] Maine, Calif. Host: *Therioaphis maculatus* (Buck.).

Biology: van den Bosch, 1957. Jour. Econ. Ent. 50: 353.—Schlinger and Hall, 1959. Jour. Econ. Ent. 52: 154.—Barnes, 1960. Jour. Econ. Ent. 53: 1094.—Schaefers and Allen, 1962. Hilgardia 32: 426.—Force and Messenger, 1964. Ent. Soc. Amer. Ann. 57: 405-413.

Taxonomy: Janssen, 1961. Beitr. z. Ent. 11: 672

**Genus MESIDIA** Foerster, p. 435

Taxonomy: Ferrière, 1962. Schweiz. Ent. Ges. Mitt. 35: 139.

**Genus ABLERUS** Howard, pp. 435–436**clisiocampae** (Ashmead).

Biology: Hughes, 1960. Fla. Ent. 43: 90.

**Genus AZOTUS** Howard, p. 436

Taxonomy: Alam, 1956. Roy. Ent. Soc. London Trans. 108: 358, 376.

**Genus TUMIDISCAPUS** Girault, p. 436**cercopiphagus** Milliron. Fla., Mich.



Genus *PHYSCUS* Howard, pp. 436–437

\**Encyrtophyscus* Blanchard in DeSantis, 1948. La Plata Mus. Rev., n. s., Zool. 5: 192.

Type: *Physcus flaviflagellatus* DeSantis. Desig. by DeSantis, 1948.

Taxonomy: Compere and Annecke, 1961. Ent. Soc. S. Afr. Jour. 24: 20.

\**flaviventris* Howard. Tex.; Philippines. Host: Assoc. with *Antonina graminis* (Mask.).

*Physcus flaviventris* Howard, 1910. Ent. News 21: 162. ♀.

\**fulvus* Compere and Annecke. Calif.; Formosa. Host: *Lepidosaphes beekii* (Newm.).

*Physcus* "B", Flanders, 1953. Lab. Agr. Gen. e Zool. Portici Bol. 33: 22.

*Physcus fulvus* Compere and Annecke, 1961. Ent. Soc. S. Afr. Jour. 24: 21. ♀, ♂.

Biology: Clausen, 1956, *loc. cit. supra*, p. 122 (sp. B).

*varicornis* (Howard). Wis., Sask. Hosts: *Phenacaspis pinifoliae* (Fitch), *Nuculaspis californica* (Colem.).

Genus *PROSPALTELLA* Ashmead, p. 437–438

Taxonomy: Alam, 1956. Roy. Ent. Soc. London Trans. 108: 359, 367.—Ferrière, 1961. Schweiz. Ent. Ges. Mitt. 34: 253.

*aurantii* (Howard).

Biology: Benassy, 1958. Entomophaga 3: 104.—Muma, 1959. Jour. Econ. Ent. 52: 579.

Taxonomy: Ferrière, 1961, *loc. cit. supra*, pp. 256, 263.

*berlesei* (Howard). N. C., Fla.; Europe, Japan.

Biology: Gireau, 1956. Phytoma 82: 29.—Bénassy, 1957. Entomophaga 2: 283.—Bénassy, 1958. Ann. Epiphyt., ser. C, 9: 459.—Bénassy, 1961. Ann. Epiphyt., ser. C, 12: 127.

Taxonomy: Flanders, 1960. Jour. Econ. Ent. 53: 757.—Ferrière, 1961, *loc. cit. supra*, p. 256.

*diaspidicola* Silvestri. Mass., D. C., Ill.; West Indies, S. America, Europe, Africa.

Taxonomy: Flanders, 1960, *loc. cit. supra*, p. 757 (? syn. of *berlesei* (Howard)).

*fasciata* Malenotti. D. C., Fla., Tex.; Europe. Host: *Carulaspis visci* (Schr.).

Biology: Bénassy and Bianchi, 1960. Entomophaga 5: 168.

Taxonomy: Ferrière, 1961, *loc. cit. supra*, pp. 255, 259.

*fuscipennis* Girault. Transf. to *Coccophagoides*.

*murtfeldtae* (Howard). Ark.

*peltata* (Cockerell), corrected spelling of *peltatus* of Catalog, *teste* Peck, 1963, *loc. cit. supra*, p. 280.

*perniciosi* Tower.

Biology: Clausen, 1956, *loc. cit. supra*, p. 124.—Flanders, 1956. Lab. Zool. Agr. Portici Bol. 33: 23.—Chumakova, 1957. Zool. Zhur. 36: 534.—Bénassy and Bianchi, 1960. Entomophaga 5: 168.—Flanders, 1960. Jour. Econ. Ent. 53: 757.—Chumakova and Gorkunova, 1963. Ent. Obozr. 42: 320.

Genus *ENCARSIA* Foerster, p. 438

\**basicincta* Gahan. Fla.; West Indies. Host: *Aleurothrixus floccosus* (Mask.).

*Encarsia basicincta* Gahan, 1927. U. S. Natl. Mus. Proc. 71 (4): 20. ♀.

*coquilletti* Howard. Idaho, Ariz., Wash.

*formosa* Gahan. Calif.

Biology: Burnett, 1958. Canad. Ent. 90: 179-191, 225-229.—Burnett,

1962. *Canad. Ent.* 94: 673.—Timofeeva, 1963. *Zashch. Rast. Vred. i Boleznei*. 8: 44.

**luteola** Howard. Calif.

Biology: Poinar, 1964. *Jour. Ent.* 57: 382.

**meritoria** Gahan. Ariz., Calif.

**pergandiella** Howard. Host: *Trialeurodes abutilonea* (Hald.).

**quaintancei** Howard. Ill. Host: *Trialeurodes abutilonea* (Hald.).

**variegata** Howard. Host: *Aleurothrixus floccosus* (Mask.).

**Genus ASPIDIOTIPHAGUS Howard, pp. 438–439**

Taxonomy: Alam, 1956. *Roy. Ent. Soc. London Trans.* 108: 359.

**citrinus citrinus** (Craw).

Biology: Bénassy, 1958. *Entomophaga* 3: 104.—Hughes, 1960. *Fla. Ent.* 43: 90.—Bénassy, 1961. *Ann. Epiphyt.*, ser. C, 12: 42.

**lounsburyi** (Berlese and Paoli).

Taxonomy: Muma, 1959. *Jour. Econ. Ent.* 52: 579.—Annecke, 1963. *Ent. Soc. S. Afr. Jour.* 26: 206.

**\*Genus COCCOPHAGOIDES Girault**

**Coccophagoides** Girault, 1915. *Queensland Mus. Mem.* 4: 58.

Type: *Coccophagus abnormicornis* Girault. Orig. desig.

**\*Diaspiniphagus** Silvestri, 1927. *Lab. Zool. Gen. e Agr. Portici Bol.* 20: 35.

Type: *Prospalta similis* Masi. Orig. desig.

Taxonomy: Compere, 1936. *Univ. Calif. Pubs.*, Ent. 6: 292.

Place in Aphelininae following *Aneristus* Howard, p. 439.

**fuscipennis** (Girault). D. C. Transf. from *Prospaltella* Howard, *teste* H. Compere, *in litt.*

**\*kuwanai** (Silvestri). Conn., N. Y., N. J., Ohio, Calif.; Japan. Host: *Aspidiotus perniciosus* (Comst.).

**Diaspiniphagus kuwanai** Silvestri, 1927. *Lab. Zool. Portici Bol.* 20: 39. ♀.

Taxonomy: Compere, 1936, *loc. cit. supra*, p. 293.

Biology: Flanders, 1960. *Jour. Econ. Ent.* 53: 757.

Nomenclature: Peck, 1963, *loc. cit. supra*, p. 294.

**\*similis** (Masi). N. Amer.; Europe. Host: *Aspidiotus perniciosus* (Comst.).

**Prospalta similis** Masi, 1908. *Lab. Zool. Portici Bol.* 3: 148. ♀.

**\*Prospaltella ilicis** Mercet, 1921. *R. Soc. Esp. Hist. Nat.* 50: 304. ♀. (Syn. by Silvestri, 1927, *loc. cit. supra*, p. 36.)

Distribution: Flanders, 1960, *loc. cit. supra*, p. 757.

**Genus COCCOPHAGUS Westwood, pp. 439–441**

Taxonomy: Alam, 1956, *loc. cit. supra*, pp. 358, 363.—Tachikawa, 1957.

Japan. *Jour. Appl. Ent. and Zool.* 1: 61.—Zinna, 1961. *Lab. Ent. Agr. Portici Bol.* 19: 303.

**albicoxa** Howard. Hosts: *Toumeyella pinicola* Ferris, *T. parvicornis* (Ckll.).

**\*basalis** Compere. Calif.; Brazil.

**Coccophagus basalis** Compere, 1939. *Calif. Univ. Pubs.*, Ent. 7: 86. ♀.

Biology: Flanders, Bartlett, Fisher, 1961. *Ent. Soc. Amer. Ann.* 54: 227–236.

**capensis** Compere. Calif.; S. Africa, Australia.

Biology: Clausen, 1956, *loc. cit. supra*, p. 93.

**cowperi** Girault. Tex., Calif.; Africa, Israel. Hosts: *Saissetia oleae* (Bern.), *S. nigra* (Niet.), *Coccus hesperidum* (L.). Incorrectly listed in Catalog, p. 441, as a syn. of *lycimnia* (Walker).

- Taxonomy:** Compere, 1931. U. S. Natl. Mus. Proc. 78 (7): 57, 60.—Flanders, 1953. Ent. Soc. Amer. Ann. 46: 90-91.—Alam, 1956, *loc. cit. supra*, pp. 363-364.
- Biology:** Clausen, 1956, *loc. cit. supra*, p. 94.—Flanders, 1959. Jour. Econ. Ent. 52: 597.
- flavifrons** Howard. Pa., Md., S. C., Ohio, Tex. Hosts: *Phenacaspis pinifoliae* (Fitch), ?*Coccus hesperidum* (L.).
- gurneyi** Compere. Calif.; Australia, Africa.  
**Biology:** Clausen, 1956, *loc. cit. supra*, p. 94.—Bartlett and Lloyd, 1958. Jour. Econ. Ent. 51: 92.
- lycimnia** (Walker). Delete *cowperi* Girault from syn.  
**Biology:** Clausen, 1956, *loc. cit. supra*, pp. 94-95.—Peterson, 1962. Canad. Ent. 94: 740.—Sonina, 1962. Akad. Nauk. Uzbek. SSR, Biol. Zhur. 3: 62.—Sugonyaev, 1962. Akad. Nauk. SSSR Izv., Ser. Biol. 5: 755.—Phillips, 1963. Canad. Ent. 95: 402.
- \*pulvinariae** Compere. Calif.; Africa. Hosts: *Coccus hesperidum* (L.), *Saissetia nigra* (Niet.), *S. oleae* (Bern.).
- Coccophagus pulvinariae*** Compere, Mar. 1931. U. S. Natl. Mus. Proc. 78 (7): 53. ♀, ♂.
- \**Coccophagus eritraensis*** Compere, Apr. 1931. Univ. Calif. Pubs., Ent. 5: 254. ♀, ♂. (Syn. by Flanders, 1959. Jour. Econ. Ent. 52: 597.)
- Biology:** Clausen, 1956, *loc. cit. supra*, pp. 94-95.—Flanders, 1959, *loc. cit. supra*, p. 597.
- rusti** Compere. Calif.; Africa.  
**Biology:** Clausen, 1956, *loc. cit. supra*, p. 95.
- scutellaris** (Dalman). Fla., Oreg. Host: *Saissetia nigra* (Niet.).  
**Biology:** Flanders, 1959. Jour. Econ. Ent. 52: 74.—Sonina, 1962. Akad. Nauk. Uzbek. SSR., Biol. Zhur. 3: 62.
- trifasciatus** Compere. Transf. to *Lounsburyia* Compere and Annecke, *infra*.
- yoshidai** Nakayama, corrected spelling of *yoshidae* Nakayama of Sup. 1, p. 66, *teste* Peck, 1963, *loc. cit. supra*, p. 318.  
**Biology:** Sugonyaev and Peng, 1960. Ent. Obozr. 39: 702, 706.

**\*Genus LOUNSBURYIA Compere and Annecke**

***Lounsburyia*** Compere and Annecke, 1961. Ent. Soc. S. Afr. Jour. 24: 28-29.

Type: *Coccophagus trifasciatus* Compere. Orig. desig.  
 Insert in Aphelininae after *Coccophagus* Westwood, p. 441.

**trifasciata** (Compere). Transf. from *Coccophagus* Westwood, *teste* Compere and Annecke, 1961, *loc. cit. supra*, p. 29.  
**Biology:** Clausen, 1956, *loc. cit. supra*, p. 95.

**Subfamily TETRASTICHINAE**

**Taxonomy:** Ferrière, 1960. Acta Hym. (Japan) 1: 105-106 (key to genera).

**Genus *Thripoctenus* Crawford, p. 442**

**petiolata** Ashmead. Ariz.

**Genus *Thripoctenus* Crawford, p. 442**

Transf. to syn. under *Ceranisus* Walker in the Entedontinae, p. 460; included spp. to be transf. to *Ceranisus*.

**Genus TETRASTICHUS Haliday**

(= *Tetrastichus* Walker of Catalog, pp. 443-450)

***Paramphaloidomyia*** Girault, 1917; Catalog, p. 452. N. syn.; types examined.

?\**Lygellus* Giard, 1896. Soc. Biol. Paris C. R. 1896: 839.

Type: *Lygellus epilachnae* Giard. By monotypy.

\**Myiomisa* Rondani, 1877. Soc. Ent. Ital. Bul. 9: 189 (syn. by Bouček, 1961. Min. Sel. Kruzy. Moldav. S.S.R. Trudy 7: 28).

Type: *Myiomisa microscopica* Rondani. By monotypy.

Taxonomy: Graham, 1961. Ent. Mo. Mag. 97: 34-64 (*Aprostocetus*).—Burks, 1962. Bul. Zool. Nomencl. 19: 306 (request for suppression of *Tetrastichus* Walker, 1842, and validation of *Tetrastichus* Haliday, 1844).—Hedqvist, 1963, *loc. cit. supra*, pp. 146-147 (*Aprostocetus*).—Int. Comn. Zool. Nomencl., 1965. Bul. Zool. Nomencl. 22: 26 (Opinion 720, suppression of *Tetrastichus* Walker, 1842).

*argyrus* Burks. Syn. of *homeri* (Girault).

*asparagi* Crawford. Syn. of *coeruleus* (Nees).

\**auplopus* Burks. Va. Host: Reared from cell of *Auplopus* sp.

*Tetrastichus auplopus* Burks, 1963. Biol. Soc. Wash. Proc. 76: 55. ♀.

\**barbarae* Burks. Oreg. Host: *Barbara colfaxiana* (Kearf.), prob. secondary.

*Tetrastichus barbarae* Burks, 1963. Biol. Soc. Wash. Proc. 76: 52. ♀, ♂.

*bruchivorus* Gahan. Introd. from France and recovered in N. C., but prob. not est. in U.S.

*bruchophagi* Gahan.

Taxonomy: Butler and Hansen, 1958. Pan-Pacific Ent. 34: 224, 226.

\**byersi* Burks. Mich., Ind. Hosts: Pupae of *Dolichocheila americana* Needham, *D. walleyi* (Alex.).

*Tetrastichus byersi* Burks, 1963. Biol. Soc. Wash. Proc. 76: 53. ♀, ♂.

*carinatus* Forbes. Syn. of *charoba* (Walker).

\**charoba* (Walker). Generally dist. in U. S. and Canada; Europe, Asia.

*Cirrospilus charoba* Walker, 1840. Ann. Nat. Hist. 4: 30. ♀.

*Tetrastichus carinatus* Forbes, 1885 (syn. by Graham, *loc. cit. supra*, p. 51 [*Aprostocetus*]).

[Note: *C. charoba* Walk. selected by Graham from 13 other apparently, but not certainly, synonymous names, although it does not have priority. Article 23 (b) of Int. Code of Zool. Nomencl. would not preserve *carinatus* Forbes for this sp. if this selection is accepted.]

*chlamytis* Ashmead. Mo., Ark., Kans., Tex., Utah.

\**clito* (Walker). Ont.; Europe. Host: *Cassida rubiginosa* Müll.

*Cirrospilus clito* Walker, 1840. Ann. Nat. Hist. 4: 30. ♀, ♂.

Taxonomy: Peck, 1963, *loc. cit. supra*, p. 128.

*coerulescens* Ashmead. Mich., Wis., Minn., N. Mex., Ariz., Calif. Hosts: *Choristoneura fumiferana* Clem., *C. pinus* Free., *Dichomeris marginella* (Fab.); prob. secondaries.

Biology: Wester, 1956. Ent. Soc. Wash. Proc. 58: 284.—Schaffner, 1959, *loc. cit. supra*, p. 82.

\**coeruleus* (Nees). Wash.; Europe.

*Eulophus coeruleus* Nees, 1834. Hym. Ichn. Affin. Monog., v. 2, p. 174. ♀.

*Tetrastichus asparagi* Crawford, 1909 (syn. by Graham, 1961, *loc. cit. supra*, p. 39 [*Aprostocetus*]).

[Strict application of Article 23 (b) of Int. Code of Zool. Nomencl. would require retention of the name *asparagi* Crawford for this sp.]

*dolosus* Gahan. Ariz.

*faustus* Burks. Minn.

Biology: Balduf, 1959. Ill. Biol. Monog. 26, p. 146.

- \***garryana** Burks. B. C., Oreg. Hosts: *Besbicus mirabilis* (Kinsey), several cynipid galls on *Quercus garryana*.  
***Tetrastichus garryana*** Burks, 1963. Biol. Soc. Wash. Proc. 76: 49. ♀, ♂.  
 Biology: Evans, 1963. Canad. Ent. 95: 1002-1005.
- gibboni** (Girault). Okla.
- hagenowii** (Ratzeburg).  
 Biology: Cameron, 1955. Bul. Ent. Res. 46: 137-147.—Cameron, 1957. Bul. Ent. Res. 48: 205-206.—Roth and Willis, 1960. Smithsn. Misc. Coll. 141: 249-253.
- homeri** (Girault), n. comb. Va., S. C., Ga., Fla., Iowa. Host: *Asteromyia* sp. leaf gall on *Solidago*. Transf. from *Paromphaloidomyia* Girault; types examined.  
***Tetrastichus argyus*** Burks, 1943, n. syn.; types examined.
- \***incertus** (Ratzeburg). Mass., Pa., N. J., Md.; Europe. Host: *Hypera pos-tica* (Gyll.).  
***Eulophus incertus*** Ratzeburg, 1844. Ichn. der Forstins., v. 1, p. 168.  
 Biology: Chamberlin, 1925. Jour. Econ. Ent. 18: 597.—Coles and Puttler, 1963. Jour. Econ. Ent. 56: 610-611.
- johnsoni** Ashmead. N. H., Md., Mo. Host: Prepupae of *Dipogon sayi sayi* Banks.
- longicorpus** (Girault). Calif.
- malacosomae** Girault.  
 Biology: Langston, 1957. Calif. Univ. Pubs. Ent. 14: 26-27.
- marcovitchi** (Crawford). Ind., Ill., Wis., N. Dak.  
 Biology: Giese and Benjamin, 1959. For. Sci. 5: 205.
- marylandensis** (Girault).  
 Biology: Schaffner, 1959, *loc. cit. supra*, pp. 82-83.
- \***megachilidis** Burks. Fla., Ohio, Ariz. Hosts: Prepupae of *Megachile* (*Litomegachile*) *gentilis* Cress., *M. (Melanosaurus) xylocopoides* Smith.  
***Tetrastichus megachilidis*** Burks, 1963. Biol. Soc. Wash. Proc. 76: 57. ♀, ♂.  
 Biology: Butler and Wargo, 1963. Pan-Pacific Ent. 39: 205.
- melanis** Burks. N. H., Fla., Minn. [Prob. a syn. of the European *coccinellae* Kurdjumov.]  
 Biology: Newcomer, 1958. Pan-Pacific Ent. 34: 89.
- \***milleri** Burks. Calif. Host: Sec. parasite of *Recurvaria milleri* (Busck).  
***Tetrastichus milleri*** Burks, 1963. Biol. Soc. Wash. Proc. 76: 56. ♀.
- modestus** Howard. N. H. Host: *Apanteles pyraustae* Vier.  
 Biology: Schaffner, 1959, *loc. cit. supra*, p. 83.
- \***nordi** Burks. Mich. Host: *Agrilus* sp.  
***Tetrastichus nordi*** Burks, 1963. Biol. Soc. Wash. Proc. 76: 51. ♀, ♂.
- oecanthivorus compar** Gahan. Md., Ark., Okla.
- paracholus** Burks. Ont., N. C., Wis., Minn.
- \***pausiris** (Walker). Ont.; Europe. Host: *Dasyneura leguminicola* (Lint.).  
***Cirrospilus pausiris*** Walker, 1839. Monog. Chalc., p. 327.  
 Taxonomy: Peck, 1963, *loc. cit. supra*, p. 143.
- phegus** Burks. Syn. of *racemariae* Ashmead.
- \***phidippi** Burks. Ariz. Host: Eggs of *Phidippus opifex* (McCook).  
***Tetrastichus phidippi*** Burks, 1963. Biol. Soc. Wash. Proc. 76: 60. ♀, ♂.
- \***politi** Burks. Va. Host: Galls of *Xanthoteras politum* (Bass.).  
***Tetrastichus politi*** Burks, 1963. Biol. Soc. Wash. Proc. 76: 48. ♀, ♂.

- \***pompilicola** Graham. Newfoundland. Host: *Anoplius nigerrimus* (Scop.).  
*Tetrastichus pompilicola* Graham in Lindroth and Graham, 1960. Opusc. Ent. 25: 94. ♀.
- productus** Riley. Que., Minn. Host: *Janus abbreviatus* (Say); delete *Phytophaga destructor* (Say).
- \***psyllaephagus** Burks. Ariz. Host: Nymph of *Trioza collaris* Crawford.  
*Tetrastichus psyllaephagus* Burks, 1963. Biol. Soc. Wash. Proc. 76: 54. ♀, ♂.  
 Biology: Cazier, 1964. Pan-Pacific Ent. 40: 71.
- racemariae** Ashmead. Ont. south to Fla., west to Calif.  
*Tetrastichus phegus* Burks (syn. by Judd, 1963. Canad. Field-Nat. 77: 63).
- rapo** of Catalog. Syn. of **sinope** Walker.
- silvaticus** Gahan. N. B. south to Conn., west to Wash. and Calif.
- \***sinope** (Walker). Cosmopolitan. Host: *Apanteles glomeratus* (L.).  
*Cirrospilus sinope* Walker, 1839. Monog. Chalc., v. 1, p. 295. ♀.  
*Tetrastichus rapo* of Catalog and authors, long. misdet. teste Graham, 1961, loc. cit. supra, p. 38.
- strobilus** Burks. Host: (?) *Barbara colfaxiana* (Kearf.).  
 Biology: Keen, 1958, loc. cit. supra, pp. 95-96.
- triozae** Burks. Hosts: *Arytaina minuta* Cwfd., *Calophya californica* Schw., *C. nigrella* Jens., *C. triozaomima* Schw., *Euphalerus vermiculosus* Cwfd., *Pezopsylla cercocarpi* Jens., *Trioza albifrons* Cwfd., *T. beameri*.  
 Biology: Jensen, 1957. Higgardia 27: 79-80, 86-96.
- trisulcatus** Provancher.  
 Taxonomy: Finlayson, 1963. Canad. Ent. 95: 498 (imm. stages).—Burks, 1964, loc. cit. supra, p. 1262 (types).
- turionum** (Hartig). Ont.  
 Biology: Clausen, 1956, loc. cit. supra, pp. 130-131.—Juillet, 1959. Canad. Ent. 91: 716-718.—Schaffner, 1959, loc. cit. supra, p. 83.—Adlung, 1962. Ztschr. Angew. Ent. 50: 456.
- varicornis** (Girault). Maine, Mass. Host: *Epinotia nanana* (Treit.).  
 Biology: Schaffner, 1959, loc. cit. supra, p. 83.
- venustus** Gahan. Que., Maine, Minn., Nebr.  
 Taxonomy: Butler and Hansen. 1958. Pan-Pacific Ent. 34: 224-226.
- whitmani** (Girault).  
 Biology: Giese and Benjamin, 1959. For. Sci. 5: 205.
- xanthomelaenae** (Rondani).  
 Taxonomy: Bouček, 1957. Acta Ent. Mus. Nat. Pragae 31: 117 (*gallerucae* Fonsc.).—Peck, 1963, loc. cit. supra, pp. 132-133 (*gallerucae* Fonsc.).
- xanthops** (Ratzeburg). B. C. Host: *Coleophora laricella* Hbn.  
 Biology: Schaffner, 1959, loc. cit. supra, p. 83.

Genus **APROSTOCETUS** Westwood, pp. 450-451

**canadensis** Ashmead. Syn. of **daira** (Walker).

\***daira** (Walker). Que., Ont., Ohio, Nebr.; Europe.

*Cirrospilus daira* Walker, 1839. Monog. Chalc., v. 1, p. 330. ♀.

*Aprostocetus canadensis* Ashmead (syn. by Graham, 1961. Ent. Mo. Mag. 97:47).

Genus **SYNTOMOSPHYRUM** Foerster, pp. 451-452

*Tetrastichomyia* Girault, 1916, n. syn. Transf. from syn. under **Miotropis** Thomson, p. 454; types examined.

Taxonomy: Graham, 1961. Ent. Mo. Mag. 97: 36 (*Aprostocetus*).

**blattae** Burks.

Biology: Roth and Willis, 1960, *loc. cit. supra*, p. 248.

**clisiocampae** (Ashmead). Transf. from **Miotropis** Thomson; types examined.**esurus** (Riley).

Biology: Allen, 1962. U. S. Dept. Agr. Tech. Bul. 1265, pp. 91-92.

**ischnopterae** (Girault).

Biology: Roth and Willis, 1960, *loc. cit. supra*, p. 249.

**orgyiae** (Girault), n. comb. Transf. from **Miotropis** Thomson; types examined.**philodromi** (Gahan). Nebr.**silvensis** (Girault), n. comb. Transf. from **Miotropis** Thomson; types examined.**Genus Paromphaloidomyia** Girault, p. 452

Syn. of **Tetrastichus** Haliday, *supra*.

**homeri** Girault. Transf. to **Tetrastichus** Haliday.**Genus MELITTOBIA** Westwood, p. 452

Delete **Aceratoneuromyia** Girault from syn.; a valid, but extralimital genus, *teste* Gradwell, 1959. Ent. Mo. Mag. 94: 277.

**chalybii** Ashmead. Hosts: Attack almost any insect in lab. cultures or insectaries, but in nature apparently attack only aculeate Hymenoptera or their parasites.

Biology: Medler, 1958. Ent. News 69: 21-23.—Medler, 1958. Ent. Soc. Amer. Ann. 51: 340-344.—Krombein, 1964. Biol. Soc. Wash. Proc 77: 101.

**Subfamily ELACHERTINAE****Genus EUPLECTRUS** Westwood, pp. 452-453**mellipes** Provancher. Maine, N. H., Wis., Alaska.

Biology: Guppy, 1959. Canad. Ent. 91: 426.

Taxonomy: Burks, 1964, *loc. cit. supra*, p. 1258.

**Genus DIAULINOPSIS** Crawford, pp. 453-454**callichroma** Crawford. Md. south to Fla., west to Nebr. and Calif.; Mexico, West Indies.**Genus MIOTROPIS** Thomson, p. 454

**Stenomesioideus** Ashmead, n. syn. Transf. from Catalog, p. 460; types examined.

**Miotropis** Thomson has long been misidentified in the N. Amer. lit.

Delete **Tetrastichomyia** Girault from syn. and transf. to syn. of

**Syntomosphyrum** Foerster, p. 451.

**clisiocampae** Ashmead. Transf. to **Syntomosphyrum** Foerster.**mellea** (Ashmead), n. comb. Transf. from **Stenomesius** Ashmead; types examined.**orgyiae** (Girault). Transf. to **Syntomosphyrum** Foerster.**silvensis** (Girault). Transf. to **Syntomosphyrum** Foerster.**Genus ELACHERTUS** Spinola, pp. 455-456**aeneoniger** Girault. Wis., Minn., Oreg., B. C. Host: *Choristoneura fumiferana* (Clem.).**glacialis** Ashmead. Colo., Wash., Oreg. Hosts: *Barbara colfaxiana* (Kearf.). *Mellisopus latiferreanus* (Wishm.).

Biology: Keen, 1958, *loc. cit. supra*, p. 94.

**cacoeciae** Howard. Oreg. Host: *Choristoneura fumiferana* (Clem.).

Biology: Carolin and Coulter, 1959. Jour. Econ. Ent. 52: 552.

**coxalis** Howard. Va. Host: *Callisto geminatella* Pack.

Biology: Hill and Hough, 1957. Va. Agr. Expt. Sta. Tech. Bul. 130, p. 16.

**hyphantriae** Crawford. Mass., Ark., Tex.

**proteoteratis** Howard. Ont., Mich., Idaho, Ariz., Calif.

*Euplectrus viridaeneus* Provancher, 1887 (syn. by Burks, *loc. cit. supra*, p. 1258).

**viridaeneus** (Provancher). Syn. of **proteoteratis** Howard.

#### Genus HYSSOPUS Girault, p. 456

**benefactor** (Crawford). Md., Ohio. Host: *Petrova virginiana* (Busck), *P. albicapitana* (Busck), *P. metallica* (Busck).

**evetriae** (Girault). Ohio. Host: *Petrova wenzeli* (Kearf.).

Biology: Miller and Altmann, 1958. Ohio Jour. Sci. 58: 278-280.—Keen, 1958, *loc. cit. supra*, p. 95.

**johannseni** (Crawford). Va., Miss. Hosts: *Laspeyresia* spp. in pine cones.

**rhyacioniae** Gahan. Ont. south to Fla. west to Mich., Ark., Tex. Hosts: *Dioryctria abietella* D. and S., *D. amatella* (Hulst), *D. cambicola* (Dyar), *D. zimmermani* (Grote).

**thymus** Girault. Ont. and N. Y. south to Fla. west to Idaho and Calif. Hosts: *Dioryctria auranticella* (Grote), *D. zimmermani* (Grote), *Petrova comstockiana* (Fern.), *P. wenzeli* (Kearf.), *Rhyacionia rigidana* (Fern.).

Biology: Miller and Altman, 1958. Ohio Jour. Sci. 58: 278-280.—Keen, 1958, *loc. cit. supra*, p. 95.—Watson and Arthur, 1959. Canad. Ent. 91: 480-484.—Schaffner, 1959, *loc. cit. supra*, p. 84.—Hartman and Kulman, 1962. Jour. Econ. Ent. 55: 1007.

#### Genus APTEROLOPHUS Gahan, p. 457

**pulchricornis** Gahan. S. C., Ind. Host: Taken sifting treehole litter.

#### Genus CIRROSPILUS Westwood, pp. 458-459

\**Plesiospilus* Ferrière, 1953. Univ. Bologna Ist. Ent. Bol. 19: 398.

Type: *Eulophus unistriatus* Foerster. Orig. desig.

Taxonomy: Delucchi, 1958. Entomophaga 3: 253.

**cinctithorax** (Girault). N. B., Que., Ont., Mass. Hosts: *Argyresthia freyella* Wlshm., *Colcophora fuscadinella* Zeller, *Lithocolletis salicifoliella* Clem., *L. tremuloidella* Braun, *Bucculatrix ainshiella* Murt.

Biology: Schaffner, 1959, *loc. cit. supra*, p. 84.

**flavicinctus** Riley. Host: *Bucculatrix ainshiella* Murt.

Biology: Schaffner, 1959, *loc. cit. supra*, p. 84.

**flavoviridis** Crawford. Ariz., Calif. Host: *Liriomyza* sp.

**pictus** (Nees).

Biology: Sundby, 1958 (1957). Norsk. Ent. Tidssk. Sup. 2, pp. 18-21.

#### Genus ZAGRAMMOSOMA Ashmead, pp. 459-460

Taxonomy: Bouček, 1959. Mus. Nat. Pragae Acta Ent. (*Zagrammosoma* a subg. of *Cirrospilus* Westwood).

**americanum** Girault. Ariz., Calif. Host: *Recurvaria milleri* Busck.

**interlineatum** Girault. Mass., Fla., Ohio. Hosts: *Exoteleia pinifoliella* (Chamb.), *Lithocolletis cincinnatiella* (Chamb.).

Biology: Schaffner, 1959, *loc. cit. supra*, p. 84.

**mirum** Girault. Hosts: *Lithocolletis crataegella* Clem., *Liriomyza pictella* (Thomson).



**Genus *Stenomeseioideus* Ashmead, p. 460**

Transf. to syn. of *Miotropis* Thomson, p. 454.

*melleus* Ashmead. Transf. to *Miotropis* Thomson.

**\*Genus *MIRZAGRAMMOSOMA* Girault**

*Mirzagrammosoma* Girault, 1915. Ent. Soc. Amer. Ann. 8: 279.

Type: *Mirzagrammosoma lineaticeps* Girault. By monotypy.

Insert in Elachertinae after *Zagrammosoma* Ashmead, p. 460.

\**lineaticeps* Girault. Fla.; Cent. America, West Indies. Hosts: *Leucoptera coffeella* (Guérin), *Liriomyza archboldi* Frost.

*Mirzagrammosoma lineaticeps* Girault, 1915. Ent. Soc. Amer. Ann. 8: 279. ♀.

**Subfamily ENTEDONTINAE****\*Genus *CERANISUS* Walker**

(= *Thripoctenus* Crawford of Catalog, p. 442)

*Ceranisus* Walker, 1842. Entomologist 1: expl. of Pl. N, fig. 2.

Type: *Cirrospilus pacuvius* Walker. By monotypy.

*Cryptomphale* Girault, 1917. Spec. Gen. nova Euloph., p. 2.

Type: *Thripoctenus nubilipennis* Williams. By monotypy.

Taxonomy: Burks, 1943. U. S. Natl. Mus. Proc. 93: 509.—Bakkendorf, 1957. Ent. Medd. 28: 1.—Graham, 1959. Soc. Brit. Ent. Trans. 13: 203.—Peck, 1963, *loc. cit. supra*, p. 117 (n. comb's.).

Insert in Entedontinae before *Astichus* Foerster, p. 460; transf. spp. in Catalog under *Thripoctenus* to *Ceranisus*.

**Genus *OMPHALE* Haliday, p. 460**

\**Secodes* Foerster, 1856. Hym. Stud., v. 2, pp. 78, 81.

Type: *Secodes fagi* Foerster. By monotypy.

Taxonomy: Graham, 1963. Soc. Brit. Ent. Trans. 15: 240.

**Genus *CLOSTEROCERUS* Westwood, p. 461**

*cinctipennis* Ashmead. Que. south to Fla. west to Wis., Iowa, Mo. Hosts: *Brachys ovatus* Web. (eggs and larvae), *Neodiprion lecontei* (Fitch), *N. excitans* Roh., *N. virginianus* complex (eggs).

Biology: Benjamin, 1955. U. S. Dept. Agr. Tech. Bul. 1118, pp. 24-26.—Morris, Schroeder, and Bobb, 1963. Pine Sawfly in Va., Va. Div. For., p. 13.

*tricinctus* (Ashmead). Host: *Exoteleia pinifoliella* (Chamb.).

Biology: Schaffner, 1959, *loc. cit. supra*, p. 84.

*trifasciatus* Westwood. Mass., Ariz. Host: *Liriomyza pictella* (Thomson).

Biology: Sundby, 1957. Norsk Ent. Tidsskr., sup. 2, p. 41.

**Genus *EUDERUS* Haliday, p. 462**

\**Secodelloidea* Girault, 1917. Sp. Gen. nova Euloph., p. 2.

Type: *Secodella rugosus* Crawford. By monotypy.

Taxonomy: Erdős, 1956. Rov. Közlem., n. s., 9: 2 (Euderini).—Graham, 1959. Soc. Brit. Ent. Trans. 13: 172, 203 (Euderinae).—Peck, 1963, *loc. cit. supra*, p. 172 (*Secodelloidea* Girault a syn.).—Bouček, 1963. Beitr. z. Ent. 13: 267 (*Secodelloidea* Girault distinct, poss. a subgen.).

*argyresthiae* (Crawford). N. Y. south to Fla., west to Wash., Oreg., Tex. Hosts: *Recurvaria* spp.

*crawfordi* Peck. Ariz., Calif. Hosts: Galls of *Dryocosmus coxii* (Bass.). *Platiotrochus suberi* Weld.

**cushmani** (Crawford). New England, N. Y., Ill. Hosts: *Coleophora laricella* Hbn., *Cydia packardii* (Zell.), *Dioryctria zimmermani* (Grote), *Proteoteras willingana* (Kearf.).

Biology: Baldus, 1959. Ill. Biol. Monog. 26: 74.—Schaffner, 1959, *loc. cit. supra*, p. 85.

**rubriscapus** (Girault), new status. Change from subsp. to sp.

**rugosus** (Crawford), new status. N. Y. south to Fla. west to Tenn. and Kans. Change from subsp. to sp.

**rugosus rubriscapus** (Girault). Change to sp.

**rugosus rugosus** (Crawford). Change to sp.

\*Genus **FLOCKIELLA** Timberlake

**Flockiella** Timberlake, 1957. Pan-Pacific Ent. 33: 109.

Type: **Flockiella eucalypti** Timberlake. Orig. desig.

Insert in Entedontinae following **Euderus** Haliday, p. 463.

\***eucalypti** Timberlake. Calif. Host: Reared from seed capsules of *Eucalyptus umbellata*.

**Flockiella eucalypti** Timberlake, 1957. Pan-Pacific Ent. 33: 110. ♀.

Biology: Flock, 1957. Pan-Pacific Ent. 33: 153-155.

Genus **BURKSIA** Fullaway, Sup. 1, p. 68

**viridimaculata** Fullaway. Calif.; Cuba, Argentina.

Genus **CHRYSOCHARIS** Foerster, pp. 463-464

**ainsliei** Crawford. S. C. Host: *Liriomyza pictella* (Thomson).

**compressicornis** Ashmead. Syn. of **viridis** Provancher.

\***cubensis** Gahan. Fla.; West Indies.

**Chrysocharis cubensis** Gahan, 1932. Ent. Soc. Amer. Ann. 25: 748. ♀, ♂.

**gemma** (Walker). Transf. to **Kratochviliana** Maláč, *infra*.

**imbratus** (Walker). Transf. from **Unplaced Species**, p. 594, *teste* Graham, 1963. Soc. Brit. Ent. Trans. 15: 234.

**laricinellae** (Ratzeburg). Transf. to **Kratochviliana** Maláč, *infra*.

\***majoriani** (Girault). Fla.; West Indies, Brazil, introd. into Hawaii for biol. control. Hosts: *Liriomyza sorosis* (Will.), *Phytobia* sp., leaf-miners on *Cassia* and other plants.

**Chrysocharodes majoriani** Girault, 1917. Descr. Hym. Chalc. var. cum Obs., p. 10. ♀.

**viridis** Provancher. Ont., Ohio. Host: Reared from gall on *Lactuca*.

**Chrysocharis compressicornis** Ashmead, 1894 (syn. by Burks, 1964, *loc. cit. supra*, p. 1257).

Genus **KRATOCHVILIANA** Maláč

**Kratochviliana** Maláč, 1943. Ent. listy (Folia Ent.) Brno 6: 1.

Type: **Kratochviliana moravica** Maláč. Orig. desig.

**Epilampsis** Delucchi, 1954. Neue Arten Subfam. Entedon., p. 3.

Type: **Chrysocharis boops** Thomson. Orig. desig.

Taxonomy: Bouček, 1961. Trudy Min. Sel. Kruzy. Moldav. S. S. R. 7: 28 (syn.).—Graham, 1963. Soc. Brit. Ent. Trans. 15: 205 (both above gen. syn. of **Chrysocharis** Foerster).

Insert in Entedontinae following **Chrysocharis** Foerster, p. 464.

**gemma** (Walker). B. C.; Europe. Transf. from **Chrysocharis** Foerster.

Taxonomy: Delucchi, 1954. Schweiz. Ent. Ges. Mitt. 27: 300-301 (**Epilampsis** Delucchi).

**laricinellae** (Ratzeburg). N. B., N. S., Ont., Wis. Transf. from **Chrysocharis** Foerster.

Taxonomy: Bouček, 1961, *loc. cit. supra*, p. 28.—Peck, 1963, *loc. cit. supra*, pp. 205-207.  
 Biology: Clausen, 1956, *loc. cit. supra*, p. 92.—Graham, 1958. Ent. Soc. Ont. Ann. Rpt. 1957, pp. 37-43.—Schaffner, 1959, *loc. cit. supra*, p. 85.

**\*Genus ENAYSMA Delucchi**

Insert in Entedontinae following *Chrysocharis* Foerster, p. 464.

**\*ENAYSMA subgenus ENAYSMA Delucchi**

*Enaysma* Delucchi, 1954. Neue Arten Subfam. Entedon., p. 1.

Type: *Enaysma zwölferei* Delucchi. Orig. desig.

The typical subgenus does not occur in N. Amer.

**\*ENAYSMA subgenus PENTENAYSMA Graham**

*Enaysma* subg. *Pentenaysma* Graham, 1959. Soc. Brit. Ent. Trans. 13: 196.

Type: *Eulophus latreillei* Curtis. Orig. desig.

Taxonomy: Miller, 1962. Canad. Ent. 94: 1039-1040.

\**arienascapus* Miller. Que., Ont. Hosts: *Lithocolletis ostryaefoliella* Clem., *Lithocolletis* sp. on *Viburnum*.

*Enaysma arienascapus* Miller, 1962. Canad. Ent. 94: 1050. ♀, ♂.

\**carioca* Miller. Que., Ont. Hosts: *Lithocolletis* sp. on *Carya*, leafminer on oak.

*Enaysma carioca* Miller, 1962. Canad. Ent. 94: 1043. ♀, ♂.

\**clypeata* Miller. Que. Host: *Lithocolletis* sp. on *Acer*.

*Enaysma clypeata* Miller, 1962. Canad. Ent. 96: 1047, 1050. ♂.

\**gahani* Miller. Que., Ont. Hosts: *Lithocolletis lucetiella* Clem., *Lithocolletis* spp.

*Enaysma gahani* Miller, 1962. Canad. Ent. 94: 1041. ♀, ♂.

\**hirtiscapus* Miller. Ont. Host: *Lithocolletis tiliacella* Chamb.

*Enaysma hirtiscapus* Miller, 1962. Canad. Ent. 94: 1047. ♀, ♂.

\**myricae* Miller. N. S. Host: *Lithocolletis* sp. on *Myrica gale*.

*Enaysma myricae* Miller, 1962. Canad. Ent. 94: 1043-1047. ♀, ♂.

**\*Genus MOSERINA Delucchi**

*Moserina* Delucchi, 1962. Kans. Ent. Soc. Jour. 35: 389.

Type: *Moserina maculata* Delucchi. Orig. desig.

Insert in Entedontinae following *Achrysocharoides* Girault, p. 464.

\**maculata* Delucchi. Ohio. Host: Reared from galls of *Pachypsylla celtidis-mamma* (Riley), and *P. celtidisvesicula* Riley.

*Moserina maculata* Delucchi, 1962. Kans. Ent. Soc. Jour. 35: 392. ♀, ♂.

**Genus PARACHRYSOCHARIS Girault, p. 465**

*semiflava* Girault. Wis. Host: *Auplopus* sp.

**Genus DEROSTENUS Westwood, pp. 466-467**

*agromyzae* Crawford. N. Y. south to Fla., west to N. Dak. and Ariz. Hosts: Delete *Agromyza scutellata* Fall and *A. pusilla* (Meig.); add *Mantura floridana* (Crotch), *Liriomyza sorosis* (Will.).

Biology: Peck, 1963, *loc. cit. supra*, p. 214.

*arizonensis* Crawford. Hosts: *Agromyza scutellata* Fall, *A. pusilla* (Meig.), *Liriomyza pictella* (Thomson).

*fullawayi* Crawford. Calif.; Hawaii; Mexico.

*punctiventris* Crawford. Idaho, Calif.

**silvia** (Girault). Maine south to Md. west to Wis., Calif. Hosts: *Coleophora laricella* (Hbn.), *Exoteleia pinifoliella* (Chamb.), *Tetralopha robustella* Zell., *Recurvaria milleri* Busck, *R. apictripunctella* (Clem.).

Biology: Schaffner, 1959, *loc. cit. supra*, p. 85.

**variipes** Crawford. N. Y. south to Fla. west to La. and Tex.

Genus **HORISMENUS** Walker, pp. 467–468

\***Pediobioidea** Girault, 1911. Canad. Ent. 43: 407.

Type: **Pediobioidea cyanea** Girault. By monotypy.

Taxonomy: Peck, 1963, *loc. cit. supra*, pp. 217, 220.

**lixivorus** Crawford. Tex., Ariz. (delete Maine). Hosts: *Lixus perforatus* Lec. (delete *Phyllocnistis populiella* Chamb.).

**microgaster** (Ashmead). Va., N. C. Hosts: *Callisto geminatella* (Pack.), *Tetralopha robustella* Zell., *Pyrausta futilalis* (Led.), *Choristoneura rosaceana* (Har.), *Exoteleia pinifoliella* (Cham.), *Coleophora laricella* (Hbn.); secondary par.

Biology: Hill and Hough, 1957. Va. Agr. Expt. Sta. Tech. Bul. 130, p. 16.—Schaffner, 1959, *loc. cit. supra*, p. 85.

**violaceus** (Ashmead). Mass., Va. Hosts: *Lithocolletis cinnamatiella* (Chamb.), *L. crataegella* Clem.

Biology: Schaffner, 1959, *loc. cit. supra*, p. 85.

Genus **PEDIOBIUS** Walker, Sup. 1, p. 68

(= *Pleurotropis* Foerster of Catalog, pp. 468–470)

\***Mestocharomyia** Girault, 1915. Queensland Mus. Mem. 3: 188. N. syn.

Type: **Mestocharis lividus** Girault. Orig. desig.

\***Eupleurotropis** Girault, 1917. Spec. Gen. nova Euloph., p. 3.

Type: **Pleurotropis testaceipes** Crawford. By monotypy.

Taxonomy: Peck, 1963, *loc. cit. supra*, p. 223.

**albipes** (Provancher). Maine and Ont., south to Va., west to Ill. Hosts: *Apanteles congregatus* (Say), ? *Gelis tenellus* (Say), *Dibrachys cavius* (Walk.), *Eupteromalus hemipterus* (Walk.), agromyzid on *Helianthus*, ? *Lithocolletis* sp.

**Entedon albitarsis** Ashmead, 1888 (syn. by Burks, 1964, *loc. cit. supra*, p. 1259).

**albitarsis** (Ashmead). Syn. of **albipes** (Provancher).

**benefica** (Gahan). Syn. of **nigritarsis** (Thomson).

**bucculatricis** (Gahan). Host: *Xenochalepus dorsalis* (Thunb.); may be secondary.

Biology: Schaffner, 1959, *loc. cit. supra*, p. 85.

**metallicus** (Nees).

Biology: Clausen, 1956, *loc. cit. supra*, p. 123.

**niger** (Ashmead), corrected spelling of **nigra** of Catalog.

\***nigritarsis** (Thomson). Ont. south to Va. west to Alta. and S. Dak.; Europe.

**Pleurotropis nigritarsis** Thomson, 1878. Hym. Scand., v. 5, p. 251. ♀, ♂.

**Pleurotropis benefica** Gahan (syn. by v. Rosen, 1956. K. Lantbrukshög. Ann. 23: 19).

Taxonomy: v. Rosen, 1959. Ent. Tidskr. 80: 163.—Peck, 1963, *loc. cit. supra*, p. 229.

**sexdentatus** (Girault). Hosts: Sec. par. of Lepidoptera.

Biology: Schaffner, 1959, *loc. cit. supra*, p. 86.

**splendens** (Cook and Davis). Maine, Pa. Host: *Eulophus anomocerus* (Crawford).

**tarsalis** (Ashmead). Hosts: Sec. par. of Lepidoptera.

Biology: Schaffner, 1959, *loc. cit. supra*, p. 86.

**wilderi** (Howard). Minn. Host: *Gelis* sp. in spider egg case.

**Genus ENTEDON Dalman, p. 470**

Taxonomy: Hedqvist, 1963, *loc. cit. supra*, p. 144.

**leucogramma** (Ratzeburg). Conn., Pa., S. C.; Europe.

Taxonomy: Hedqvist, 1963, *loc. cit. supra*, pp. 145-146.—Graham, 1963.  
Soc. Brit. Ent. Trans. 15: 194-195 (possible syn.).

**Genus PARACRIAS Ashmead, pp. 470-471**

**mirus** (Girault). N. Y., Ohio. Hosts: *Thysanocnemis* spp. in ash seeds.

**\*Genus CHRYSNOTOMYIA Ashmead**

**Chrysonotomyia** Ashmead, 1904. Carnegie Mus. Mem. 1: 344.

Type: *Eulophus auripunctatus* Ashmead. Orig. desig.

Insert in Entedontinae following *Emersonopsis* Girault, p. 471.

**\*auripunctata** (Ashmead). Fla.; West Indies. Hosts: *Ctenodactylomyia watsoni* Felt gall on *Coccolobus uvifera*; gall on *Pithecolobium*.

**Eulophus auripunctatus** Ashmead, 1894. Linn. Soc. London Jour., Zool. 25: 166. ♀.

**Family ELASMIDAE**

This family is unnecessary: *Elasmus* itself is clearly eulophid, and the other genera now placed in the Elasmidae are closely related to *Aphelinus* Dalman. See Compere, 1947. Bul. Ent. Res. 38: 381.

**Genus ELASMUS Westwood, pp. 471-472**

**apanteli** Gahan. Wis.

**atratus** Howard. N. H., Mass.

Biology: Schaffner, 1959, *loc. cit. supra*, p. 86.

**\*maculatus** Howard. Fla.; West Indies. Hosts: *Apanteles* spp.

**Elasmus maculatus** Howard, 1894. Linn. Soc. London Jour., Zool. 25: 103. ♀.

**setosiscutellatus** Crawford. Hosts: *Apanteles* spp. on lepidopterous larvae.

**Family THYSANIDAE****Genus THYSANUS Walker, pp. 472-474**

**citrifolii** (Ashmead). Delete entry; species cited in error for *Siphonophora citrifolii* Ashmead, an aphid.

**coquilletti** (Ashmead). Fla. Hosts: *Aleuroplatus coronatus* (Quaint.), *A. gelatinosus* (Ckll.), *Aleurodes* sp.

**dactylopii** (Ashmead). Tex., N. Mex. Host: *Leucopis* sp. pred. on mealybugs.

**elongatus** (Girault). N. J., Md.

Taxonomy: Ferrière, 1957. Opusc. Zool. 10: 6 (*Signiphorina* Nikolskaja).

**fasciatus** (Girault).

Biology: Arnaud, 1959. Ent. News 70: 163 (primary par.).

**flavopalliatius** (Ashmead). Hosts: *Prospaltella* spp.

Biology: Muma, 1959. Jour. Econ. Ent. 52: 582 (sec. par.).—Hughes, 1960. Fla. Ent. 43: 90 (sec. par.).

**louisianae** Dozier. Fla.

**merceti** (Malenotti). Calif. Hosts: *Hemiberlesia lataniae* (Sign.), *H. rapax* (Comst.).

Biology: DeBach, Kennett, and Pence, 1958. Jour. Econ. Ent. 51: 114-115 (primary par.).—Valenzuela, 1962. Agronomia (Colombia) 1: 41 (primary par.).

**niger** (Ashmead).

Taxonomy: De Santis, 1957. La Plata Univ. Nac., Mus. Notas 19: 113.

**occidentalis** (Howard). Fla.

**pulcher** (Girault). Ark.

**thoreauini** (Girault). Hosts: *Hemiberlesia lataniae* (Sign.), *H. rapax* (Comst.).

Biology: DeBach, Kennett, and Pence, 1958, *loc. cit. supra*, pp. 114-115 (primary par.).

## Family TANAOSTIGMATIDAE

Genus **TANAOSTIGMODES** Ashmead, p. 474

**albiclavus** Girault, corrected spelling of *albiclava* Girault of Catalog. Host: Gall on *Mimosa*; prob. phytophagous.

Nomenclature: Peck, 1963, *loc. cit. supra*, p. 331.

## Family ENCYRTIDAE

Taxonomy: Ferrière, 1953. Schweiz. Ent. Ges. Mitt. 26: 1-45.—Erdős and Novicky, 1955. Beitr. z. Ent. 5: 165-202.—Hoffer, 1955. Narod. Mus. Praise Sborn. 11 (B): 3-21.—Hoffer in Kratochvil, 1957. Česk. Akad. Ved. Stud. Pram., Sek. Biol. 18: 245-269.—Hoffer, 1960. Mus. Nat. Pragae Acta Faun. Ent. 6: 93-119.—Compere and Annecke, 1960. Ent. Soc. S. Afr. Jour. 23: 375-389.—Tachikawa, 1963. Ehime Univ. Mem. 9: 1-264 (host list, pp. 9-29).—De Santis, 1963. Com. Inv. Cient. Prov. B. A. An. 4: 9-398.

### Subfamily ENCYRTINAE

Genus **TINEOPHOCTONUS** Ashmead, p. 475

**armatus** (Ashmead). Fla.; Europe, S. Amer. Host: *Anobium punctatum* (DeG.).

\*Genus **ERICYDNUS** Walker

**Ericydnus** Walker, 1837. Ent. Mag. 4: 363.

Type: *Ericydnus paludatus* Walker. Desig. by Westwood, 1840.

Insert in Encyrtinae following *Tineophoctonus* Ashmead, p. 475.

\***sipylus** (Walker). Calif.; Europe.

*Encyrtus sipylus* Walker, 1837. Ent. Mag. 4: 445. ♀.

Genus **LEPTOMASTIX** Foerster, p. 475

**dactylopii** Howard.

Biology: Clausen, 1956, *loc. cit. supra*, p. 94.—Lloyd, 1958. Canad. Ent. 90: 450-461.

Genus **ANAGYRUS** Howard, pp. 475-476

**antoninae** Timberlake. Mexico.

Biology: Clausen, 1956, *loc. cit. supra*, p. 75.—Questel and Genung, 1957. Fla. Ent. 40: 123-125.—Dean and Schuster, 1958. Jour. Econ. Ent. 51: 363-365.—Dean, 1960. Jour. Econ. Ent. 53: 694.

**fusciventris** (Girault). Calif.; Hawaii, West Indies.

Biology: Clausen, 1956, *loc. cit. supra*, p. 75.

\***graminicolens** Dozier. Tex.; West Indies. Host: ? *Antonina graminis* (Mask.).

*Anagyrus graminicolens* Dozier, 1937. Univ. P. R. Jour. Agr. 21: 123. ♀. [This may be a synonym of *Cerchysius pulchricornis* Howard, 1894, described from St. Vincent, W. I.].

**pallidipes** Ashmead. N. Y. south to Fla. west to Tex.

**\*Genus NEODUSMETIA Kerrich**

*Neodusmetia* Kerrich, 1964. Entomophaga 9: 76.

Type: *Dusmetia sangwani* Subba Rao. Orig. desig.

Taxonomy: Burks, 1958 (1957). Brooklyn Ent. Soc. Bul. 52: 124-125.—Richards, 1958. Roy. Ent. Soc. London Proc., ser B, 27: 61.—Kerrich, 1964, *loc. cit. supra*, pp. 75-77.

Insert in Encyrtinae following *Anagyrus* Howard, p. 476.

\**sangwani* (Rao). Tex., Ariz.; Hawaii, Mexico, India, Pakistan. Host: *Antonina graminis* (Mask.).

*Dusmetia sangwani* Rao, Dec. 1957. Indian Acad. Sci. Proc. 46: 385. ♀, ♂.

\**Dusmetia indica* Burks, Jan. 1958 (1957). Brooklyn Ent. Soc. Bul. 52: 125. ♀, ♂. (Syn. by Narayanan, Subba Rao, and Rao, 1960. Natl. Inst. Sci. India Proc. 26: 175.)

Biology: Dean, Schuster, and Bailey, 1961. Jour. Econ. Ent. 54: 953.—Beardsley, 1961. Hawaii. Ent. Soc. Proc. 17: 327.—Kerrich, 1964, *loc. cit. supra*, p. 75.

**Genus COMPERIA Gomes, p. 476**

*merceti* (Compere). Calif.

Biology: Roth and Willis, 1960. Smithsn. Misc. Coll. 141: 244, 255, 351.

**Genus APOANAGYRUS Compere, p. 476**

*californicus* Compere. Ariz.

**Genus ECTROMATOPSIS Compere, p. 476**

*americana* (Howard). Tex., Ariz., Nev.; Mexico.

**\*Genus HUNGARIELLA Erdős**

(= *Tetracnemus* of Catalog, pp. 447-478)

*Hungariella* Erdős, 1946. Mus. Natl. Hungarici Ann. Hist.-Nat. 39: 144.

Type: *Hungariella piceae* Erdős. Orig. desig.

Delete generic syn. in Catalog, p. 477, under *Tetracnemus*; *Charitopus* Foerster extralimital and valid.

Taxonomy: Erdős, 1955. Acta Zool. [Budapest] 1: 218.—Hoffer, 1959. Mus. Nat. Pragae, Acta Ent. 33: 13-14.—Hoffer, 1960. Mus. Nat. Pragae, Acta Faun. Ent. 6: 101.

*peregrina* (Compere). Calif.; S. Africa, S. America. Hosts: *Pseudococcus gahani* Green, *P. maritimus* (Ehrh.).

Biology: Clausen, 1956, *loc. cit. supra*, p. 130.

*pretiosus* (Timberlake). Calif.; Australia. Host: *Pseudococcus maritimus* (Ehrh.).

Biology: Clausen, 1956, *loc. cit. supra*, p. 130.—Bartlett and Lloyd, 1958. Jour. Econ. Ent. 51: 92.

**\*Genus TETRACNEMUS Westwood**

(= *Tetracladia* Howard of Catalog, p. 478)

*Paracalocerinus* Girault, 1915; Catalog, p. 503.

*Masia* Mercet, 1919; Catalog, p. 503.

\**Anusiella* Mercet, 1923. Real Soc. Esp. Hist. Nat. Bol. 23: 286.

Type: *Anusiella heydeni* Mercet. Orig. desig.

\**Placoceras* Erdős, 1946. Frag. Faun. Hung. 9: 1.

Type: *Placoceras colocense* Erdős. By monotypy.

Taxonomy: Erdős, 1955, *loc. cit. supra*, p. 221-223.—Hoffer, 1960, *loc. cit. supra*, p. 101.

*americanus* (Girault). Transf. from *Paracalocerinus* Girault, p. 503, *teste* Peck, 1963, *loc. cit. supra*, p. 347.

*marylandia* (Girault). Transf. from *Paracalocerinus* Girault, p. 503, *teste* Peck, 1963, *loc. cit. supra*, p. 347.

**tertius** (Girault). Transf. from *Paracalocerinus* Girault, p. 503 *teste* Peck, 1963, *loc. cit. supra*, p. 347.

Genus **TETRACNEMOPSIS** Ashmead, p. 478

**westwoodi** (Cockerell). Que., Maine.

Genus **PENTACNEMUS** Howard, p. 478

**bucculatricis** Howard. Calif. Host: *Argyresthia pilatella* Braun.

Genus **LEPTOMASTIDEA** Mercet, p. 479

**abnormis** (Girault).

Biology: Clausen, 1956, *loc. cit. supra*, p. 109.

Genus **ENCYRTUS** Latreille, pp. 479–480

\***Allorhopoideus** Brèthes, 1916. Buenos Aires Mus. Nac. Hist. Nat. Ann. 27: 425.

Type: *Allorhopoideus mirabilis* Brèthes. Orig. desig.

Taxonomy: Masi, 1921. [Genova]. Mus. Civ. di Stor. Nat. Ann., ser. 3, 9: 239.

**fuscus** (Howard).

Taxonomy: Burks, 1964, *loc. cit. supra*, p. 1256.

**peckhamii** (Ashmead). Que. and Ont. south to N. C., west to Wis. and Tenn. Host: *Eulecanium quercifex* (Fitch).

Genus **PARALITOMASTIX** Mercet, p. 481

**pyralidis** (Ashmead).

Biology: Clausen, 1956, *loc. cit. supra*, p. 22.

Genus **COPIDOSOMA** Ratzeburg, pp. 481–483

Taxonomy: De Santis, 1963. Com. Inv. Cient. Prov. B. A. An. 4: 282-280, 284, 299-300.

**bakeri** (Howard), new status. N. B. and Ont., south to Mass., west to Alta. and Calif. Hosts: 10 spp. of Noctuidae, listed in Catalog under subsp. of **bakeri**, p. 482.

*Copidosoma bakeri bakeri* (Howard) of Catalog, raised to sp. by Peck, 1963, *loc. cit. supra*, p. 361.

*Berecynthus bakeri* var. *arizonensis* Girault, 1916 (syn. by Peck, 1963, *loc. cit. supra*, p. 361).

*Berecynthus bakeri* var. *gemma* Girault, 1916 (syn. by Peck, 1963, *loc. cit. supra*, p. 361).

*Berecynthus bakeri* var. *euxoae* Strickland, 1916 (syn. by Peck, 1963, *loc. cit. supra*, p. 361).

\***deceptor** Miller. Throughout Canada and north. U. S. Hosts: *Epinotia nana* (Treit.), *Acleris variana* (Fern.), *Duvita vittella* Busck, *Eucordylia huntella* Kief., *Recurvaria apictripunctella* Clem., *R. canusella* Free., *R. milleri* Busck, *R. moreonella* Hein., *R. nanella* (Hbn.), *R. starki* Free., *R. thujaella* Kearf., *Exoteleia dodecella* (L.), *E. pinifoliella* (Cham.), *Argyresthia aureoargentella* Brower.

*Copidosoma deceptor* Miller, 1958. Pan-Pacific Ent. 34: 58. ♀, ♂.

Biology: Stark, 1961. Canad. Jour. Zool. 39: 895.—Telford, 1961. Jour. Econ. Ent. 54: 348.—Richards, 1963. Canad. Ent. 95: 519.

**gelechia** Howard, new status.

*Copidosoma gelechia gelechia* (Howard) of Catalog, raised to sp. by Peck, 1963, *loc. cit. supra*, p. 363.

*Copidosoma gelechia* var. *saga* Girault, 1920 (syn. by Peck, 1963, *loc. cit. supra*, p. 364).

Biology: Schaffner, 1959, *loc. cit. supra*, p. 86.—Miller, 1963. Ohio Jour. Sci. 63: 71.

**geniculatum** (Dalman). Ont.; Europe. Host: *Rhyacionia frustrana* (Comst.).



Biology: Schaffner, 1959, *loc. cit. supra*, p. 86.

**lymani** Howard. Wis. Host: *Rhyacionia buoliana* (Schiff.)

Genus **CERCHYSIUS** Westwood, p. 483

**hubbardii** Ashmead. Mont., Idaho, Ariz.

**marylandicus** Girault. N. H., Ind.

**pallipes** (Provancher).

Taxonomy: Burks, 1964, *loc. cit. supra*, p. 1257.

Genus **BAEOCHARIS** Mayr, p. 483

\***pascuorum** Mayr. N. H.; Europe. Host: *Eriopeltis festucae* Fonsc.

*Baeocharis pascuorum* Mayr, 1875. Zool. Bot. Ges. Wien. Verh. 25: 768.

♀, ♂.

Genus **CHALCASPIUS** Howard, p. 484

**pergandei** Howard. Okla., Tex.

Genus **BOTHRIENCYRTUS** Timberlake, p. 484

**planiformis** (Howard). Hosts: *Hemerobius pacificus* Banks; reared from cocoons of undet. Hemerobiidae.

Genus **PENTELICUS** Howard, p. 485

Taxonomy: Kerrich, 1963. Beitr. z. Ent. 13: 364.

**aldrichi** Howard. N. H., Nebr.

Genus **HEMAENASIUS** Ashmead, p. 485

**confusus** Ashmead. Nebr.

Genus **TRICHOMASTHUS** Thomson, p. 485

Taxonomy: Alam, 1957. Roy. Ent. Soc. London Trans. 109: 446-447.

\***albimanus** Thomson. N. H., Minn.; Europe. Host: *Eriopeltis festucae* Fonsc.

*Trichomasthus albimanus* Thomson, 1875. Hym. Scand., v. 4, p. 144. ♀, ♂.

Taxonomy: Alam, 1957, *loc. cit. supra*, p. 447.

\***cyaneus** (Dalman). N. H., Mass.; Europe. Host: *Eriopeltis festucae* Fonsc.

*Encyrtus cyaneus* Dalman, 1820. Svenska. Vetensk. Akad. Handl. 41: 160. ♀.

Taxonomy: Alam, 1957, *loc. cit. supra*, pp. 447, 450.

**cyanifrons** (Dalman). N. H.

Taxonomy: Alam, 1957, *loc. cit. supra*, p. 447.

\*Genus **MIRA** Schellenberg

*Mira* Schellenberg, 1803. Gen. des Mouch., p. 68.

Type: *Mira macrocera* Schellenberg. By monotypy.

Insert in Encyrtinae following *Trichomasthus* Thomson, p. 485.

\***macrocera** Schellenberg. Idaho; Europe.

*Mira macrocera* Schellenberg, 1803. Gen. des Mouch., pp. 68-69.

\*Genus **HAMBLETONIA** Compere

*Hambletonia* Compere, 1936. Hawaii. Ent. Soc. Proc. 9: 172.

Type: *Hambletonia pseudococcina* Compere. By monotypy.

Insert in Encyrtinae after *Discodes* Foerster, p. 485.

\***pseudococcina** Compere. Fla., Tex., Calif; Hawaii, West Indies, Brazil. Host: *Dysmicoccus brevipes* (Ckll.).

*Hambletonia pseudococcina* Compere, 1936. Hawaii. Ent. Soc. Proc. 9: 173. ♀, ♂.

Biology: Carter, 1937. Jour. Econ. Ent. 30: 370.—Plank, 1938. P. R. Expt. Sta. Rpt. for 1937, pp. 98-99.—Bartlett, 1939. P. R. Univ. Jour. Agr. 23: 67-71.—Clausen, 1956, *loc. cit. supra*, p. 106.

Genus HOMALOTYLUS Mayr, p. 486

\**Lepidaphycus* Blanchard, 1936. Soc. Ent. Arg. Rev. 8: 13.

Type: *Lepidaphycus bosqi* Blanchard. Orig. desig.

Taxonomy: d'Araujo e Silva, 1945 (1944). Bol. Fitossanit. (Brazil) 1: 29.—Hoffer, 1959. Acta Ent. Mus. Nat. Pragae 33: 30.—De Santis, 1963. Com. Inv. Cient. Prov. B. A. An. 4: 162 (*Echthroplexis* Foerster).

Genus ANISOTYLUS Timberlake, p. 487

*pallentipes* Timberlake. Mo.

Genus PRIONOMITUS Mayr, p. 487

*mitratus* (Dalman). B. C., Calif.; Europe. Hosts: Nymphs of Psyllidae.  
Biology: Jensen, 1957. Hilgardia 27: 72-78, 87-89, 92-95.

Genus PSYLLAEPHAGUS Ashmead, pp. 487-488

*pachypsyllae* (Howard). Calif. Hosts: *Pachypsylla celtidisvesicula* Riley, *P. venusta* (O. S.), *Trioza beameri* Tuthill.  
Biology: Jensen, 1957, *loc. cit. supra*, pp. 79, 95.

*trioziphagus* (Howard). Ariz. Host: *Kuwayama medicaginis* (Cwfd.).  
Biology: Cazier, 1964. Pan-Pacific Ent. 40: 73.

Genus MICROTERYS Thomson, pp. 488-489

\**Apentelicus* Fullaway, 1913. Hawaii. Agr. Expt. Sta. Ann. Rpt. 1912, p. 26.

Type: *Apentelicus kotinskyi* Fullaway. Orig. desig.

Taxonomy: Timberlake, 1919. Hawaii. Ent. Soc. Proc. 4: 184.

*flavus* (Howard). Cosmopolitan.

Biology: Bartlett and Lagace, 1961. Ent. Soc. Amer. Ann. 54: 222-227.  
—Bartlett, 1964. Ent. Soc. Amer. Ann. 57: 344.—Bartlett and Ball, 1964. Ent. Soc. Amer. Ann. 57: 496-503.

Taxonomy: Annecke, 1962. Ent. Soc. S. Afr. Jour. 25: 174, 175.

Genus ISODROMUS Howard, p. 489

*iceryae* Howard. Hosts: *Chrysopa bimaculata* McCl., *C. cubana* Hagan, *C. sanchezi* Navas.

\**montanus* Slosson. N. H. Host: *Chrysopa* sp.

*Isodromus montanus* Slosson, 1895. Ent. News 6: 278. [Type lost, but this may be *Isodromus vinulus* (Dalman), subsequently collected in P. E. I.]

Taxonomy: Peck, 1963, *loc. cit. supra*, p. 395.

*montinus* (Packard). Colo.

*puncticeps* (Howard). N. J., Pa., Kans.

\**vinulus* (Dalman). P. E. I.; Europe.

*Encyrtus vinulus* Dalman, 1820. Svenska Vetensk. Akad. Handl. 41: 160.  
Taxonomy: Hellen, 1949. Notulae Ent. 29: 46 (*Nobrimus* Thomson).

Genus COCCIDENCYRTUS Ashmead, p. 490

\**Coccidencyrtoides* Blanchard, 1940. Soc. Cient. Arg. An. 130: 107.

Type: Not desig.

Taxonomy: Compere and Annecke, 1961. Ent. Soc. S. Afr. Jour. 24: 59-61.

*ochraceipes* Gahan. Calif.; Hawaii, Brazil.

Genus PSEUDAPHYCUS Clausen, pp. 490-491

Taxonomy: Hoffer, 1960. Mus. Nat. Pragae Acta Faun. Ent. 6: 94-96.

**malinus** Gahan. Holarctic.Biology: Clausen, 1956, *loc. cit. supra*, p. 125.Taxonomy: Jasnoch, 1957. Ent. Obozr. 36: 720.—Hoffer, 1960, *loc. cit. supra*, pp. 95, 97.—Sugonyaev, 1962. Akad. Nauk S. S. S. R. Izv., ser. Biol., 5: 757.**Genus ACEROPHAGUS E. A. Smith, p. 491****notativentris** (Girault).

Biology: Flanders, 1959. Jour. Econ. Ent. 52: 72.

**Genus APHYCUS Mayr, pp. 492-495****Aphycus** subg. **Aphycaspis** Hoffer, 1954. Ochr. Prir. 9: 170. N. syn.

Type: Not desig.; 2 spp. incl.

Taxonomy: Compere, 1957. Portici Lab. Ent. Agr. Bol. 15: 221-230 (*Metaphycus*).—Compere and Annecke, 1960. Ent. Soc. S. Afr. Jour. 23: 375-389.**alberti** Howard. Calif.; Australia, Hawaii.Taxonomy: Compere, 1957, *loc. cit. supra*, pp. 222-224.**apicalis** (Dalman). [N. Amer. record almost certainly an error.]Taxonomy: Compere and Annecke, 1960, *loc. cit. supra*, p. 377-378.**bifasciatus** (Timberlake).Taxonomy: Compere and Annecke, 1961. Ent. Soc. S. Afr. Jour. 24: 39, 44 (*Waterstonia* Mercet).**californicus** Howard.

Taxonomy: Compere and Annecke, 1961. Ent. Soc. S. Afr. Jour. 24: 34.

**eriococci** Timberlake. Fla., Tex. Host: *Coccus hesperidum* (L.).**eruptor** Howard. Host: *Ceroplastes floridensis* Comstock.**flavus** Howard. Cosmopolitan. Hosts: *Coccus hesperidum* (L.), *Saissetia oleae* (Bern.).Taxonomy and Biology: Compere, 1957, *loc. cit. supra*, pp. 229-230.**hederaceus** (Westwood).Taxonomy: Compere, 1957, *loc. cit. supra*, p. 222.—Graham, 1959. Ent. Tidskr. 79: 173.**helvolus** Compere.Taxonomy: Compere, 1957, *loc. cit. supra*, p. 223.Biology: Clausen, 1956, *loc. cit. supra*, pp. 80-81.—Flanders, 1959. Jour. Econ. Ent. 52: 74, 596-599.—Damaino, 1963. Rev. di Agr. Subtrop. e Trop. 57: 452.**lounsburyi** Howard. Hawaii. Host: *Saissetia hemispherica* (Targ.).Biology: Clausen, 1956, *loc. cit. supra*, p. 81.—Beardsley, 1962. Hawaii. Ent. Soc. Proc. 18: 16.**luteolus** Timberlake.Taxonomy: Compere, 1957, *loc. cit. supra*, p. 229.Biology: Flanders, 1959, *loc. cit. supra*, p. 74.—Bartlett and Ball, 1964. Ent. Soc. Amer. Ann. 57: 496-503.**maculipes** Howard. Tex.**mexicanus** Howard. La.; Mexico. Delete Pa. from range.**pulvinariae** Howard.Taxonomy: Compere and Annecke, 1961, *loc. cit. supra*, p. 34.**stanleyi** (Compere).Biology: Clausen, 1956, *loc. cit. supra*, pp. 81-82.**Genus OOENCYRTUS, p. 496**

Taxonomy: Hoffer, 1963. Mus. Nat. Pragae Acta Ent. 35: 560-563 (div. of genus into subgenera).

**clisiocampae** (Ashmead). Md., Ark., N. Mex., Idaho, Utah. Host: *Malacosoma fragile* (Str.), prob. secondary par.

**kuwanai** (Howard). N. Y.; Japan, Europe.

Biology: Clausen, 1956, *loc. cit. supra*, pp. 116-118.—Templado, 1957. Inst. Biol. Barcelona, Apl. Pubs. 25: 119.—Hitchcock, 1959. Jour. Econ. Ent. 52: 764.—Tadic, Vasic, and Salatic, 1959. Zast. Bilja 52-53: 47-52.—Dowden, 1961. Jour. Econ. Ent. 54: 876.—Bjegovic, 1963. Zast. Bilja 14: 544.

**\*submetallicus** (Howard). Fla.; West Indies, Brazil, Philippines. Host: *Nezara viridula* (L.).

*Encyrtus submetallicus* Howard, 1896. Linn. Soc. London Jour., Zool. 26: 151. ♀.

**Genus SYRPHOPHAGUS** Ashmead, p. 497

**quadrimaculati** (Ashmead), corrected spelling of *quadrimaculatae* of Catalog, *teste* Peck, 1963, *loc. cit. supra*, p. 433.

**Genus PSEUDENCYRTUS** Ashmead, p. 497

**cecidomyiae** (Howard). Que., Ont., N. H., Mich. Host: *Rhabdophaga strobiloides* (O. S.).

**Genus HOLCENCYRTUS** Ashmead, p. 497

**physokermis** Girault. Que., Maine., N. H.

**Genus CHEILONEURUS** Westwood, pp. 497-498

**elegans** (Dalman). [All forms currently under this name may not be conspecific.]

Biology: Ferrière, 1952. Ninth Int. Cong. Ent. Amsterdam Trans. v. 1, p. 594.—Ferrière, 1956. Lab. Zool. Gen. e Agr. Portici Bol. 33: 354.—Sugonyaev, 1958. Ent. Obozr. 37: 309.

Taxonomy: Claridge, 1958. Ent. Mo. Mag. 94: 157.

**inimicus** Compere. Fla., Tex.

**Genus CHRYSOPHAGUS** Ashmead, p. 499

**americanus** (Perkins). Calif.; Hawaii.

**amplicornis** (Gahan). Ariz., Calif. Hosts: *Dactylopius* sp. on *Opuntia*, *Antonia graminis* (Mask.), poss. sec. parasite.

**compressicornis** Ashmead. Hosts: Hyperparasite of *Chrysopa* spp.

Biology: Muma, 1959. Fla. Ent. 42: 151-152.

**Genus HABROLEPIS** Foerster, pp. 499-500

**rouxi** Compere.

Biology: Clausen, 1956, *loc. cit. supra*, p. 106.—Flanders, 1956. Lab. Zool. Gen. e Agr. Portici Bol. 33: 15-16, 25.—Smith, 1957. Canad. Ent. 89: 219-228.—Doutt, 1959. Ann. Rev. Ent. 4: 170-171.—Annecke, 1963. Ent. Soc. S. Afr. Jour. 26: 207.

**Genus ADELENCYRTUS** Ashmead, p. 500

Taxonomy: Compere and Annecke, 1961, *loc. cit. supra*, pp. 47-49 (key to spp.).

**aulacaspidis** (Brèthes). Nebr.; S. America, Europe.

**Genus ANICETUS** Howard, p. 500

**annulatus** Timberlake. Tex.; Mexico, Hawaii, Japan, China. Host: *Coccus hesperidum* L.

**\*toumeyellae** Milliron. Del., Va. Host: *Toumeyella liriiodendri* (Gmel.).

*Anicetus toumeyellae* Milliron, 1959. Ent. Soc. Amer. Ann. 62: 29. ♀, ♂.

## Genus ZARHOPALUS Ashmead, p. 501

**inquisitor** (Howard). Md., Ariz.; Mexico, West Indies. Host: *Ferrisiana virgata* (Ckll.).

## Genus Coccobius Ratzeburg, p. 501

Delete; extralimital.

**diaspidis** Ashmead. Syn. of *Arrhenophagus chionaspidis* Aurivillius, p. 507.

## Genus PSEUDHOMALOPODA Girault, p. 501

**prima** Girault.

Biology: Clancy *et al.*, 1963. Jour. Econ. Ent. 56: 604.

## Genus EUSEMION Dahlbom, pp. 501–502

\***corniger** (Walker). N. H.; Europe. Hosts: *Lepidosaphes ulmi* (L.), *Lecanium corni* Behé., *Pulvinaria vitis* (L.), other spp. in European lit.

*Encyrtus corniger* Walker, 1837. Ent. Mag. 5: 114. ♀.

Taxonomy: Ferrière, 1949. Schweiz. Ent. Ges. Mitt. 22: 383.

Biology: Schmutterer, 1951. Ztschr. f. Angew. Ent. 33: 121.—Zak-Ogaza, 1961. Polskie Pismo Ent. 31: 365.

## \*Genus COELOPENCYRTUS Timberlake

*Coelopencyrtus* Timberlake, 1919. Ent. Soc. Hawaii Proc. 4: 218.

Type: *Coelopencyrtus odyneri* Timberlake. Orig. Desig.

\**Nesencyrtus* Timberlake, 1919, *loc. cit. supra*, p. 223.

Type: *Adelencyrtus kaalae* Ashmead. Orig. desig.

Taxonomy: Burks, 1958. Wash. Acad. Sci. Jour. 48: 22.—Tryapitzin, 1960. Ent. Obozr. 39: 697.

Insert in Encyrtinae following *Atropates* Howard, p. 502.

\***hylaei** Burks. Md., Nebr. Hosts: *Hylaeus cressoni* (Ckll.), *Hylaeus* sp.

*Coelopencyrtus hylaei* Burks, 1958. Wash. Acad. Sci. Jour. 48: 25. ♀, ♂.

Biology: Brandhorst, 1962. Ent. Soc. Amer. Ann. 55: 477.

\***hylaeoleter** Burks. Ont., Idaho, Utah. Host: *Hylaeus* sp.

*Coelopencyrtus hylaeoleter* Burks, 1958. Wash. Acad. Sci. Jour. 48: 24. ♀, ♂.

## Genus XANTHOENCYRTUS Ashmead, p. 502

Delete *Mirastymachus* Girault from syn. and transf. to syn. under *Rhopus* Foerster, *infra*.

Taxonomy: Ghesquière, 1956. Lab. Zool. Gen. e Agr. Portici Bol. 33: 683–689, 692–695.

**americanus** (Girault). Transf. to *Rhopus* Foerster.

**nigroclavatus** Ashmead. Md., Va., Nebr.

## \*Genus RHOPUS Foerster

(= *Xanthoencyrtus* Ashmead of Catalog, p. 502, in Part)

*Rhopus* Foerster, 1856. Hym. Stud., v. 2, pp. 34, 37, 151.

Type: *Encyrtus piso* Walker. Orig. desig.

*Mirastymachus* Girault, 1915 (transf. from syn. under *Xanthoencyrtus* Ashmead, *teste* Ghesquière, 1956, *loc. cit. supra*, p. 689).

Taxonomy: Ghesquière, 1956, *loc. cit. supra*, pp. 683–692.

Insert in Encyrtinae following *Xanthoencyrtus* Ashmead, p. 502.

**americanus** (Girault). Del., Oreg. Transf. from *Xanthoencyrtus* Ashmead, *teste* Ghesquière, 1956, *loc. cit. supra*, p. 698.

## Genus PAURIDIA Timberlake, p. 502

**peregrina** Timberlake. Calif.; Hawaii, China. Host: *Pseudococcus citri* (Risso).

**Genus PLAGIOMERUS Crawford, p. 502**

**diaspidis** Crawford. Fla., Tex.; Mexico. Delete D. C. from range.

**\*Genus TRECHNITES Thomson**

(= *Psylledontus* Crawford of Catalog, pp. 502-503)

**Trechnites** Thomson, 1875. Hym. Scand., v. 4, p. 118.

Type: *Metallon fuscitarsis* Thomson. By monotypy.

Taxonomy: Hoffer, 1960. Mus. Nat. Pragae Acta Faun. Ent. 6: 109.—  
Ferrière, 1961. Entomophaga 6: 39-40.

**insidiosus** (Crawford). Calif.

Taxonomy: Ferrière, 1961, *loc. cit. supra*, p. 41.

Biology: Madsen, Westigard, and Sisson, 1963. Canad. Ent. 95: 842-843.

**Genus AGROMYZAPHAGUS Gahan, p. 503**

**detrimentosus** Gahan. Wis., Iowa, Utah, Calif.

**Genus Paracalocerinus Girault, p. 503**

Transf. to syn. under **Tetracnemus** Westwood (= *Tetracladia* Howard of Catalog, p. 478); transf. included spp. to **Tetracnemus** Westwood *supra*, not **Tetracnemus** of Catalog, p. 477.

**Genus IXODIPHAGUS Howard, p. 503**

**texanus** Howard. Iowa, Mont.

Taxonomy: Quaraishi, 1958. Amer. Midland Nat. 59: 489-504.

**Genus HUNTERELLUS Howard, pp. 503-504**

**hookeri** Howard. Cosmopolitan.

Taxonomy: Quaraishi, 1958, *loc. cit. supra*, pp. 489-504.

Biology: Klyushkina, 1958. Zool. Zhur. 37: 1561.—Ushakova, 1962.  
Akad. Nauk Kazakh. SSR Inst. Zool. Trudy 16: 183.

**Genus PARALEUROCERUS Girault, p. 504**

\***Gibberella** Miller, 1961. Canad. Ent. 93: 494. N. syn.

Type: *Gibberella scutellata* Miller. Orig. desig.

**bicoloripes** Girault. N. S., Ont., N. H., Mass., Conn., Mich., Tex. Hosts:  
*Lithocolletis caryaefoliella* (Clem.), *L. lucetiella* Clem., *L. cincin-*  
*natiella* (Chamb.), *L. spp.*

\***Gibberella scutellata** Miller, 1961. Canad. Ent. 93: 496. ♀, ♂. N. syn.;  
types examined.

Biology: Schaffner, 1959, *loc. cit. supra*, p. 87.

**Genus FORMICENCYRTUS Girault, p. 504**

**thoreauini** Girault. Ariz.

**Genus COMPERIELLA Howard, pp. 504-505**

**bifasciata** Howard. Fla., Calif.; Japan.

Biology: Clausen, 1956, *loc. cit. supra*, pp. 96-97.—Flanders, 1956. Por-  
tici Lab. Zool. Gen. e Agr. Bol. 33: 25-26.—Smith, 1957. Canad.  
Ent. 89: 219-228.—Teran and DeBach, 1963. Rev. Agron. No-  
roeste Arg. 4: 5-23.

**Genus COCCIDOXENUS Crawford, p. 505**

**mexicanus** Girault. Ariz.; Mexico, West Indies.

**nubilipennis** (Girault). Va.

**Genus QUAYLEA Timberlake, p. 505**

**whittieri** (Girault). Calif.; Hawaii, Australia.

Biology: Clausen, 1956, *loc. cit. supra*, pp. 125-126.

**Genus ANARHOPUS** Timberlake, p. 505**sydneyensis** Timberlake. Calif.; Australia.Biology: Clausen, 1956, *loc. cit. supra*, pp. 75, 130.—Flanders, 1959. Jour. Econ. Ent. 52: 75.**Genus PSEUDORHOPUS** Timberlake, pp. 505–506

Taxonomy: Alam, 1957. Roy. Ent. Soc. London Trans. 109: 459-460.

**hartmani** Timberlake.Taxonomy: Alam, 1957, *loc. cit. supra*, p. 460.**Subfamily ARRHENOPHAGINAE****Genus ARRHENOPHAGUS** Aurivillius, pp. 506–507

Taxonomy: Man Mohan, 1963. Ztschr. f. Parasitenk. 22: 394.

**chionaspidis** Aurivillius.**Coccobius diaspidis** Ashmead, 1900 (syn. by Ghesquière, *in litt.*).

Taxonomy: Tachikawa, 1957. Jap. Jour. Appl. Ent. and Zool. 1: 174.

Biology: Bénassy, 1958. Acad. Sci. (Paris) Compt. Rend. 246: 180.—Tachikawa, 1958. Ins. Mats. 21: 118.—Bénassy, 1961. Ann. des Épi-  
phyt., ser. C, 12: 42.**Family EUELMIDAE**Taxonomy: Hedqvist, 1963, *loc. cit. supra*, pp. 131-132.**Genus METAPELMA** Westwood, p. 507**schwarzi** (Ashmead). Ark., Oreg.**Genus EUSANDALUM** Ratzeburg, pp. 507–508Taxonomy: Peck, 1963, *loc. cit. supra*, p. 472.**acmaeoderae** Rohwer, change to Girault.**Eusandalum acmaeoderae** Girault, Mar. 1917.**Eusandalum acmaeoderae** Rohwer, June 1917.**Genus CALOSOTA** Curtis, p. 508Taxonomy: Hedqvist, 1963, *loc. cit. supra*, pp. 138-139.**longiventris** (Ashmead). Idaho.**Genus EUELMUS** Dalman, pp. 508–511Taxonomy: Hedqvist, 1963, *loc. cit. supra*, p. 135.**allynii** (French). Hosts: *Bruchophagus* spp., *Antistrophus pisum* (Walsh) galls on *Lygodesmia*.

Biology: Wester, 1956. Ent. Soc. Wash. Proc. 58: 285-286.—Neunzig and Gyrisco, 1959. Jour. Econ. Ent. 52: 900-901.—Allen, 1962. U. S. Dept. Agr. Tech. Bul. 1265, pp. 98-99.—Brandhorst, 1964. Ent. Soc. Amer. Ann. 57: 75-76.

**cyaniceps amicus** Girault. Mass. Host: *Dioryctria disclusa* Hein.Biology: Schaffner, 1959, *loc. cit. supra*, p. 87.—Allen, 1962, *loc. cit. supra*, pp. 97-98.**cyaniceps cyaniceps** Ashmead. Calif.Biology: Allen, 1962, *loc. cit. supra*, pp. 96-97.

Taxonomy: Finlayson, 1962. Canad. Ent. 94: 277, 278-279 (imm. stages).

**brevicauda** (Crawford). Calif.**inyoensis** Girault. Host: *Pimplopterus* sp.

Biology: Tilden, 1951. Microent. 16: 164, 173.

**limneriae** Howard.Biology: Allen, 1962, *loc. cit. supra*, pp. 93-95.

**neococcidis** Peck. Host: *Tenodera angustipennis* Sauss.

Biology: Gurney, 1959. Ent. Soc. Wash. Proc. 61: 23.

**pini** Taylor. N. H.

**popa** Girault. Okla.; Hawaii, West Indies, Cent. and S. America, Orient, Australia.

Biology: Passlow, 1958. Queensl. Jour. Agr. Sci. 15: 35.—Harris, 1961.

Bul. Ent. Res. 52: 134.

**rhizophelus** Brues. Syn. of **Eupelmella dryorhizoxeni** (Ashmead).

**spongipartus** Foerster. N. B., Ont., Wis.; Europe. Hosts: *Diprion similis* (Htg.), *Apanteles solitarius* (Ratz.).

Biology: Reeks and Smith, 1956. Canad. Ent. 88: 572.—Allen, 1962, *loc. cit. supra*, pp. 95-96.

Taxonomy: Finlayson, 1962. Canad. Ent. 94: 277, 279 (imm. stages).

\***urozonus** Dalman. N. J., Md.; Europe. Host: ? *Bruchidius ater* (Marsh.).  
**Eupelmus urozonus** Dalman, 1820. Svenska Vetensk. Akad. Handl. 41: 378. ♀.

Biology: Leonide, 1960. Soc. Ent. France Bul. 65: 274, 279.—Rivosecchi, 1960. Parassitol. 2: 289.—Féron, Bénard, and Poitout, 1961. Entomophaga 6: 180.

Taxonomy: Hedqvist, 1963, *loc. cit. supra*, pp. 135-137.

#### Genus ARACHNOPHAGA Ashmead, pp. 511-512

**costalis** Gahan.

Biology: Allen, 1962, *loc. cit. supra*, p. 100.

**frontalis** Gahan.

Biology: Allen, 1962, *loc. cit. supra*, pp. 99-100.

**longicornis** (Brues).

Biology: Allen, 1962, *loc. cit. supra*, p. 100.

**picea** (Riley).

Biology: Cazier and Mortenson, 1962. So. Calif. Acad. Sci. Bul. 61: 74, 83-84.

#### Genus EUPELMELLA Masi, p. 512

Nomenclature: Peck, 1963, *loc. cit. supra*, p. 492 (*Macroneura*).

Taxonomy: Hedqvist, 1963, *loc. cit. supra*, p. 132.

**canadensis** (Provancher). Syn. of **vesicularis** (Retzius).

**dryorhizoxeni** (Ashmead). Mass. south to Fla. west to Kans.

**Eupelmus rhizophelus** Brues, n. syn.; types examined.

**vesicularis** (Retzius). Holarctic.

**Theocolax canadensis** Provancher, 1883 (syn. by Burks, 1964, *loc. cit. supra*, p. 1262).

Taxonomy: Finlayson, 1960. Canad. Ent. 92: 37, 38, 44 (imm. stages).—Hedqvist, 1963, *loc. cit. supra*, pp. 133-134.

Biology: Allen, 1962, *loc. cit. supra*, pp. 100-101.

#### Genus ANASTATUS Motschulsky, pp. 513-514

**blattidarum** Ferrière. Syn. of **tenuipes** Bolivar y Pieltain.

**disparis** Ruschka.

Biology: Clausen, 1956, *loc. cit. supra*, p. 76.—Karnozitzky, 1957. Bulg. Akad. Nauk. Zool. Inst. Trudov 4: 37, 97.—Templado, 1957. Inst. Biol. Apl. Pubs. Barcelona 25: 126.—Vasic and Salatic, 1959. Zast. Bilja 52-53: 45.—Stefanov and Keremedziev, 1961. Viss. Lesot. Inst. Sofia Nauch. Trudove 9: 162.—Tadic, 1961. Zast. Bilja 13: 63-64.—Salatic, 1963. Zast. Bilja 14: 693-699.

**floridanus** Roth and Willis.

Biology: Roth and Willis, 1960. Smithsn. Misc. Coll. 141: 245-246.

**mantis** (Ashmead). Ga., Ill., Miss., Okla., Tex.



**microcentri** Gahan. Kans., Tex., Ariz.

**semiflavus** Gahan. Calif.

\***tenuipes** Bolivar y Pieltain. N. Hemisphere. Host: Egg case of *Supella supellectilium* (Serv.).

**Anastatus tenuipes** Bolivar y Pieltain, 1925. Soc. Roy. Ent. Égypte Bul. 9: 43. ♀.

**Anastatus blattidarum** Ferrière, 1930 (syn. by Roth and Willis, 1960, *loc. cit. supra*, p. 246).

Biology: Flock, 1941. Brooklyn Ent. Soc. Bul. 36: 1-4.—Roth and Willis, 1960, *loc. cit. supra*, p. 246-247.

Genus **ENCYRTASPIS** Ashmead, p. 514

**semirufa** Gahan. Ariz.

Biology: Allen, 1962, *loc. cit. supra*, pp. 101-102.

Genus **LECANIOBIUS** Ashmead, p. 514

**cockerelli** Ashmead. Fla.; West Indies, S. America. Host: *Saissetia oleae* (Bern.).

**utilis** Compere. Calif.; S. America.

Biology: Clausen, 1956, *loc. cit. supra*, p. 108.

\*Genus **PHLEBOPENES** Perty

**Phlebopenes** Perty, 1833. Delect. anim. artic. Brasil., p. 132.

Type: **Phlebopenes splendidus** Perty. By monotypy. Revision: Roman, 1920. Ark. Zool. 12: 24-30.

Insert in Eupelmidae following **Zaischnopsis** Ashmead, p. 514.

\***hetricki** Burks. Md., Ga., Fla.

**Phlebopenes hetricki** Burks, 1964. Ent. News 75: 1. ♀.

## Family EUCHARITIDAE

Genus **PSEUDOCALCURA** Ashmead, pp. 514-515

**californica** (Ashmead). Oreg.

**gibbosa** (Provancher). N. H.

Taxonomy: Burks, 1964, *loc. cit. supra*, p. 1258.

Genus **PSEUDOMETAGEA** Ashmead, p. 515

Revision: Burks, 1961. Ent. News 72: 253-257.

\***bakeri** Burks. Iowa, Wyo., Colo.

**Pseudometagea bakeri** Burks, 1961. Ent. News 72: 256. ♀, ♂.

**hillmeadia** Girault. Syn. of **schwarzii** (Ashmead).

**schwarzii** (Ashmead). Que. and Ont. south to Md. and D. C. west to Wis., Iowa, Nebr. Host: *Lasius neoniger* Emery.

**Pseudometagea hillmeadia** Girault, 1916 (syn. by Burks, *loc. cit. supra*, p. 255).

Biology: Ayre, 1962. Canad. Jour. Zool. 40: 157-164.

Genus **ORASEMA** Cameron, pp. 515-516

\***Semora** Cameron, 1909. Amer. Ent. Soc. Trans. 35: 432-433. Preocc.

Type: **Semora xanthopus** Cameron. Orig. desig.

\***Semorella** Ghesquière, 1946. Rev. Zool. Bot. Afr. 39: 368. N. name.

\***Semorata** Strand, 1947. Folia Zool. Hydrobiol. 11: 393. N. name.

Taxonomy: Kerrich, 1963. Bul. Ent. Res. 54: 366.

\***tolteca** Mann. Ariz.; Mexico. Host: *Pheidole* sp.

**Orasema tolteca** Mann, 1914. Psyche 21: 183-184. ♀, ♂.

## Family PERILAMPIDAE

Genus PERILAMPUS Latreille, pp. 517-519

**canadensis canadensis** Crawford. Hosts: *Ectemnius* (*Hypocrabro*) *stirpicola* (Pack.), *E. (H.) continuus* (Fab.), *E. (H.) paucimaculatus* (Pack.), *Eupilis* sp.

Biology: Krombein, 1960. Ent. News 71: 32, 66.—Krombein, 1964. Biol. Soc. Wash. Proc. 77: 101-102.

**chrysopae** Crawford.

Taxonomy: Kerrich, 1958. Opusc. Ent. 23: 82.

**fulvicornis** Ashmead, changed status. Raised from subsp. to sp. by Peck, 1963, *loc. cit. supra*, p. 517.

Biology: Schaffner, 1959, *loc. cit. supra*, p. 87.—Béique, 1960. Canad. Ent. 92: 859.—Bennett, 1961. Tenn. Acad. Sci. Jour. 36: 353.—Harman and Kulman, 1962. Jour. Econ. Ent. 55: 1007.

**fulvicornis prothoracicus** Smulyan. Raised to sp. rank.

**hyalinus** Say. [May represent a species complex.]

Biology: Smith, 1958. Canad. Jour. Res. 36: 254-258.—Tripp, 1962. Canad. Ent. 94: 1250-1270.—Becker and Benjamin, 1964. Jour. Econ. Ent. 57: 356.

Taxonomy: Finlayson, 1963. Canad. Ent. 95: 499-500, 501 (imm. stages).—Burks, 1964, *loc. cit. supra*, pp. 1259-1260 (*aciculatus* Provancher).

**prothoracicus** Smulyan, changed status. Raised from subsp. to sp. by Peck, 1963, *loc. cit. supra*, p. 523.

**stygius** Provancher. Que. and Maine south to Va. west to Ohio, Kans. and La.

Taxonomy: Burks, 1964, *loc. cit. supra*, p. 1260.

Genus CHRYSOLAMPUS Spinola, p. 539

Taxonomy: Bouček, 1956. Mus. Nat. Pragae Acta Faun. Ent. 1: 87-88.—Kerrich, 1958. Opusc. Ent. 33: 82.

Transf. with component spp. from Pteromalidae, tribe Lamprotatini, and insert in Perilampidae following *Perilampus* Latreille, p. 519.

Genus ELATUS Walker, p. 539

**\*Parellatus** Girault, 1916. Queensland Mus. Mem. 5: 226.

Type: *Elatus ater* Girault. Orig. desc.

Taxonomy: Bouček, 1956, *loc. cit. supra*, p. 88.

Transf. with component spp. from Pteromalidae, tribe Lamprotatini, and insert in Perilampidae following *Perilampus* Latreille, p. 519.

**laevis** (Provancher), n. comb. ? Ont. [may be foreign]. Transf. from *Unplaced Species*, p. 594, *teste* Burks, 1964, *loc. cit. supra*, p. 1260.

## Family AGAONIDAE

Genus BLASTOPHAGA Gravenhorst

(=*Blastophagus* Gravenhorst of Catalog, p. 519)

Nomenclature: China, 1960. Bul. Zool. Nomencl. 18: 69-72 (request for validation of *Blastophaga* Gravenhorst, 1829, and suppression of *Blastophagus* Gravenhorst, 1827).—Peck, 1963, *loc. cit. supra*, p. 526 (*Blastophaga*).—I.C.Z.N., 1964. Opinion 694, Bul. Zool. Nomencl. 21: 31-32 (validation of *Blastophaga* Gravenhorst, type *B. grossorum* Grav.).

**psenes** (Linnaeus). Cosmopolitan.

Bibliography: Condit and Enderud, 1956. Hilgardia 25: 64-85, 616.

Biology: Joseph, 1954. Agra Univ. Jour. Res. (Sci.) 3: 408.—Grandi,

1955. Accad. Naz. dei Lincei Atti, Mem., Cl. Sci., ser. 8, 5: 3.—Grandi, 1956. Bologna Univ. Ist. di Ent. Bol. 21: 111.—Mrak, 1957. Food Tech. 11: 547.—Kuttamathiathu, 1958. Ann. Sci. Nat., Zool. et Biol. Anim., ser. 11, 20: 201.  
Nomenclature: I.C.Z.N., 1964. Opinion 694, Bul. Zool. Nomencl. 21: 32 (validation of *Cynips psenes* Linnaeus, 1758).

## Family TORYMIDAE

### Subfamily IDARNINAE

#### Genus COLYOSTICHUS Mayr, p. 519

- brevicaudis** Mayr, corrected spelling of *brevicauda* of Catalog, *teste* Peck, 1963, *loc. cit. supra*, p. 530.

#### \*Genus NEOSYCOPHILA Grandi

(= *Sycophila* of Catalog, p. 519)

- Neosycophila* Grandi, 1923. Genova Mus. Civ. di Stor. Nat. Ann. 51: 106.

Type: *Neosycophila omeomorpha* Grandi. Orig. desig.

- The genus *Sycophila* Walker is a member of the Eurytomidae, *teste* E. F. Riek, *in litt.*

### Subfamily TORYMINAE

#### Genus ALLOTORYMUS Huber, p. 520

- splendens** (Provancher).

Taxonomy: Burks, 1964, *loc. cit. supra*, p. 1262.

#### Genus TORYMUS Dalman, pp. 520–527

- baccharidis** (Huber). Host: *Rhopalomyia californica* Felt.

Biology: Doutt, 1961. Ent. Soc. Amer. Ann. 54: 51 (*baccharicidis*).

- bedeguaris** (Linnaeus). Que., Ont., Ill., Iowa, Nebr., Wash.; Europe.

Biology: Judd, 1959. Canad. Ent. 91: 728-730.

- brevis** Breland. Minn.

- californicus californicus** (Ashmead). Delete Conn. and Fla. from dist.

- capillaceus** (Huber). Tex., Ariz., Calif. Delete Conn. from dist.

- citripes** (Huber). Host: Gall of *Euaresta bullans* (Wied.) on *Atriplex*.

- druparum** Boheman. Syn. of *varians* (Walker).

- duplicatus** (Huber). Que. and N. H., south to Fla. west to Nebr.

- fagopirum** (Provancher), corrected spelling of *fagopyrum* of Catalog, *teste* Peck, 1963, *loc. cit. supra*, p. 541.

Taxonomy: Burks, 1964, *loc. cit. supra*, p. 1256.

- flavicoxa** (Osten Sacken).

*Cleonymus superbus* Provancher, 1888 (syn. by Burks, 1964, *loc. cit. supra*, p. 1257).

- fullawayi** (Huber). Host: *Dryocosmus dubiosus* (Full.).

- fulvus** (Huber). Md., Iowa.

- koebelei** (Huber). Host: *Rhopalomyia californica* Felt.

Biology: Doutt, 1961, *loc. cit. supra*, p. 51.

- longicauda** (Provancher).

Taxonomy: Burks, 1964, *loc. cit. supra*, p. 1256.

- pachypsyllae** (Ashmead). Ohio, Kans., Idaho. Host: *Pachypsylla celtidis-mamma* Riley.

**pilularidis** (Huber). Host: *Rhopalomyia californica* Felt.

Biology: Doutt, 1961, *loc. cit. supra*, p. 51.—Burks, 1965. Ent. News 76: 74-76.

\***rugglesi** Milliron. Del., Md., Va. Host: *Ilex opaca* seeds.

*Torymus rugglesi* Milliron, 1959. Ent. Soc. Amer. Ann. 52: 52. ♀, ♂.

**scalaris** (Huber). Kans.

**strobiloides** (Huber). Ont.

**superbus** (Provancher). Syn. of **flavicoxa** (Osten Sacken).

**umbilicatus** (Gahan). Md. south to Fla., west to Calif.; Mexico.

\***varians** (Walker). N. C., Man.; Europe.

*Callimome varians* Walker, 1833. Ent. Mag. 1: 122. ♀.

*Torymus druparum* Boheman, 1834 (1833) (syn. by Olsson, 1957. Växtskyd. 21: 58).

Taxonomy: Eady, 1958. Ent. Mo. Mag. 94: 260 (*Syntomaspis* Foerster).

**vesiculi** Moser. Idaho.

#### Genus DIOMORUS Walker, p. 527

**biorhizae** Ashmead. Prob. a sp. of *Torymus*; type apparently lost. Transf. to Unplaced Species, p. 594.

**viridis** (Provancher).

Taxonomy: Burks, 1964, *loc. cit. supra*, p. 1259.

**zabriskiei** Cresson. Hosts: *Crossocerus fergusonii* Pate, *Epicrossocerus insolens* (Fox), *Ectemnius (Hypocrabro) spiniferus* (Fox), *E. (H.) paucimaculatus* (Pack.), *Euphilis (Corynopus) rufigaster* (Pack.), *E. (C.) arapaho* Pate.

Biology: Krombein, 1960. Ent. News 71: 32, 67.—Krombein, 1964. Biol. Soc. Wash. Proc. 77: 102-103.

#### Subfamily MONODONTOMERINAE

Taxonomy: Szelenyi, 1957. Mus. Nat. Hung. Ann. Hist.-Nat., n.s., 8: 381-388 (key to genera).—Szelenyi, 1960. Acad. Sci. Hung., Acta Zool. 5: 141-146 (rev. key to genera).

#### Genus LIODONTOMERUS Gahan, p. 528

**insuetus** Gahan. Nebr., Okla., Utah, Calif. Hosts: *Bruchophagus kolobovae* Fed., *B. roddei* (Guss.), *B. platyptera* (Walk.).

Biology: Neunzig and Gyrisco, 1959. Jour. Econ. Ent. 52: 899-901.

**longfellowi** (Girault). N. Y., Md., Va., W. Va., Ohio, Mich., Iowa, Utah.

Hosts: *Bruchophagus platyptera* complex.

Biology: Neunzig and Gyrisco, 1959, *loc. cit. supra*, pp. 899-901.

**perplexus** Gahan. Holarctic. Hosts: *Bruchophagus platyptera* complex.

Biology: Neunzig and Gyrisco, 1959, *loc. cit. supra*, pp. 899-901.

#### Genus MONODONTOMERUS Westwood, pp. 528-529

**aereus** Walker. Holarctic; India.

Biology: Clausen, 1956, *loc. cit. supra*, pp. 114-116.—Wilbert, 1960. Entomophaga 5: 203.—Blunck and Wilbert, 1962. Ztschr. f. Angew. Ent. 50: 203.

**dentipes** (Dalman). Holarctic.

*Monodontomerus viridaeneus* Provancher (syn. by Burks, 1964, *loc. cit. supra*, p. 1259).

Biology: Finlayson and Finlayson, 1958. Canad. Ent. 90: 558-559.

Taxonomy: Finlayson, 1960. Canad. Ent. 92: 37, 39, 44 (imm. stages).

\***mexicanus** Gahan. Ind., Calif.; Mexico. Hosts: *Trypoxylon mexicanum* Sauss., *Stenodynerus vagus* (Sauss.).

*Monodontomerus mexicanus* Gahan, 1941. U. S. Natl. Mus. Proc. 90: 468. ♀, ♂.

\**minor* (Ratzeburg). Conn., N. Y. south to Va. west to Calif.; Europe. Hosts: *Thyridopteryx ephemeraeformis* (Haw.), *Phryganidia californica* Pack., *Samia cynthia* (Drury); recorded as hyperparasite of Lepidoptera in European lit.

*Torymus minor* Ratzeburg, 1848. Ichn. der Forstins., v. 2, p. 178. ♀, ♂.

*Monodontomerus subobsoletus* Gahan (syn. by Steffan, 1952. Paris Mus. d'Hist. Nat. Bul., ser. 2, 24: 293).

Biology: Allen, 1962. U. S. Dept. Agr. Tech. Bul. 1265, p. 102.

*montivagus* Ashmead. Host: *Megachile rotundata* (Fab.).

*obscurus* Westwood. Holarctic; Pa., Md., Ga., W. Va., Idaho. Host: *Megachile rotundata* (Fab.).

Taxonomy: Steffan, 1952, *loc. cit. supra*, pp. 289, 290.—Eady, 1958. Ent. Mo. Mag. 94: 269.

*subobsoletus* Gahan. Syn. of *minor* (Ratzeburg).

Genus **ZAGLYPTONOTUS** Crawford, pp. 529–530

*schwarzi* Crawford. Idaho.

Genus **GLYPHOMERUS** Foerster, p. 530

*stigma* (Fabricius). Nebr. Delete *Monodontomerus viridaeneus* Provancher from syn. and trans. to syn. under *Monodontomerus dentipes* (Dalman).

Taxonomy: Burks, 1964, *loc. cit. supra*, p. 1259.

Genus **HYPERIMERUS** Girault, p. 537

Transf. with included species from Pteromalidae, tribe Asaphini, and insert in Toryminae, following *Glyphomerus* Foerster, p. 530.

*corvus* Girault. Hosts: *Hemerobius* sp., *Symphherobius* sp.

Genus **PSEUDOTORYMUS** Masi, p. 530

*lazulellus* (Ashmead). N. B., Que., and Conn., west to Minn.

Genus **ANTISTROPHOPLEX** Crawford, p. 531

*bicoloripes* Crawford. Iowa. Host: *Antistrophus pisum* Walsh gall on *Lygodesmia*.

Biology: Brandhorst, 1964. Ent. Soc. Amer. Ann. 57: 74-77.

Genus **MICRODONTOMERUS** Crawford, p. 531

*anthonomi* (Crawford). Calif. Host: *Leptochilus* sp.

*fumipennis* Crawford. Wyo. south to N. Mex., west to Wash., Oreg., Calif. Host: *Malacosoma californicum* (Pack.).

Biology: Langston, 1957. Univ. Calif. Pubs., Ent. 14: 29-30.

Genus **ROPTROCERUS** Ratzeburg, Sup. 1, pp. 73, 76

(= *Pachyceras* Ratzeburg of Catalog, p. 549)

Taxonomy: Hedqvist, 1963, *loc. cit. supra*, p. 61.

*xylophagorum* (Ratzeburg). Que. and N. H. south to N. C. and La., west to B. C., Wash., and Ariz.

Biology: Reid, 1957. Canad. Ent. 89: 6-7.

Taxonomy: Hedqvist, 1963, *loc. cit. supra*, pp. 61-62, 66-70 (*eccoptogastri* Ratzeburg a syn.).—Burks, 1964, *loc. cit. supra*, p. 1261 (*rectus* Provancher).

### Subfamily MEGASTIGMINAE

Genus **MEGASTIGMUS** Dalman, pp. 531–533

\**Epimegastigmus* Girault, 1915. Queensland Mus. Mem. 4: 297, 307.

Type: *Xanthosomoides fulvipes* Girault. Orig. desig.

Taxonomy: Milliron, 1949. Amer. Midland Nat. 41: 263.

Biology: Lessmann, 1962. Ztschr. f. Angew. Ent. 49: 363-371 (imm. stages).—Lessmann, 1962. Ztschr. f. Angew. Ent. 50: 233-241 (host plants).

**aculeatus aculeatus** (Swederus). Ill.

Taxonomy and Biology: Balduf, 1957. Ent. Soc. Amer. Ann. 50: 479-483.—Balduf, 1959. Ill. Biol. Monog. 26, pp. 124-130.

Nomenclature: Peck, 1963, *loc. cit. supra*, p. 578 (var.).

**aculeatus nigroflavus** Hoffmeyer. N. J., and Pa. south to Va., west to Ill.; Japan, Russia.

Nomenclature: Peck, 1963, *loc. cit. supra*, p. 579 (var.).

Biology: Balduf, 1959, *loc. cit. supra*, pp. 124-126.

**albifrons** Walker.

Biology: Keen, 1958, *loc. cit. supra*, pp. 102-105.

**americanus** Milliron. Cited as *slossonae* Crosby in Catalog in error; latter is a *nomen nudum*, not validated through citation in synonymy. See Art. 11,d of Int. Code Zool. Nomencl.

**brevicaudis** Ratzeburg, corrected spelling of *brevicauda* of Catalog.

**lasiocarpae** Crosby. Alta., B. C., Wash. Delete Conn. from distb.

Biology: Keen, 1958, *loc. cit. supra*, p. 105.

**milleri** Milliron.

Biology: Keen, 1958, *loc. cit. supra*, p. 106.

**nigrovariegatus** Ashmead.

Biology and Taxonomy: Balduf, 1957, *loc. cit. supra*, pp. 478-483.—Balduf, 1959, *loc. cit. supra*, pp. 130-145.

**picea montana** Milliron.

Biology: Keen, 1958, *loc. cit. supra*, p. 106 (var.).

**picea picea** Rohwer.

Nomenclature: Peck, 1963, *loc. cit. supra*, p. 584 (var.).

Biology: Keen, 1958, *loc. cit. supra*, p. 106.

**pinus pinus** Parfitt.

Nomenclature: Peck, 1963, *loc. cit. supra*, p. 585 (var.).

Biology: Hussey and Klingler, 1954. Ent. Mo. Mag. 90: 198-201 (*pinus* Parfitt and var. *crosbyi* Hoffmeyer).—Keen, 1958, *loc. cit. supra*, pp. 106-108.—Hussey, 1959. Ent. Mo. Mag. 95: 237.

**pinus marginatus** Hoffmeyer.

Nomenclature: Peck, 1963, *loc. cit. supra*, p. 586 (var.).

**rafni** Hoffmeyer.

Biology: Keen, 1958, *loc. cit. supra*, pp. 108-110.

**slossonae** Crosby. *Nomen nudum*; see **americanus** Milliron.

**specularis** Walley.

Biology: Hedlin, 1957 (1956). Canad. Ent. 88: 691-697.

**spermotrophus nigrodorsatus** Milliron.

Biology: Keen, 1958, *loc. cit. supra*, p. 111 (var.).

**spermotrophus spermotrophus** Wachtl.

Nomenclature: Peck, 1963, *loc. cit. supra*, p. 587 (var.).

Biology: Hussey, 1955. Roy. Ent. Soc. London Trans. 106: 133-151.—Hedlin, 1958. Ent. Soc. B. C. Proc. 55: 37.—Keen, 1958, *loc. cit. supra*, pp. 110-111.—Hussey, 1959. Ent. Mo. Mag. 95: 237.

**tsugae heterophyllae** Milliron.

Biology: Keen, 1958, *loc. cit. supra*, p. 111 (var.).

**tsugae tsugae** Crosby.

Nomenclature: Peck, 1963, *loc. cit. supra*, p. 588 (var.).

Biology: Keen, 1958, *loc. cit. supra*, p. 111.

## \*Genus EUMEGASTIGMUS Hussey

*Eumegastigmus* Hussey, 1956. Roy. Ent. Soc., London, Proc., ser. B, 25: 157.

Type: *Eumegastigmus hypogea* Hussey. Orig. desig.

Insert in Megastigminae following *Megastigmus* Dalman, p. 533.

\**transvaalensis* Hussey. Calif.; S. Africa, Canary Isls. Host: Seeds of *Schinus molle*.

*Eumegastigmus transvaalensis* Hussey, 1956. Roy. Ent. Soc., London Proc., ser. B, 25: 161. ♀, ♂.

Biology: Harper and Lockwood, 1961. Calif. Dept. Agr. Bul. 50: 129.

## Subfamily PODAGRIONINAE

Placed in Torymidae in Sup. 1, p. 82.

Taxonomy: Ferrière, 1955. Soc. Roy. Ent. Belg. Mem. 27: 207 (Podagrionidae).

## Genus PODAGRION Spinola, p. 583

\**Cyanostola* Saussure in Grandidier, 1890. Hist. Madagascar 20, Hym. 1, pl. 15, fig. 30.

Type: *Cyanostola coerulea* Saussure. By monotypy.

\**Podagrionella* Girault, 1913. Arch. f. Naturgesch. 79 (A) pt. 6: 96.

Type: *Podagrionella bella* Girault. By monotypy.

\**Pachytomoidella* Girault, 1913. Wis. Nat. Hist. Soc. Bul. 11: 40.

Type: *Pachytomoidella magniclavus* Girault. Orig. desig.

\**Propodagrion* Girault, 1915. Queensland Mus. Mem. 4: 287.

Type: *Propodagrion worcesteri* Girault. Orig. desig.

\**Propachytomoides* Girault, 1917. Ins. Ins. Mens. 5: 152.

Type: *Propachytomoides semialbiclavus* Girault. Orig. desig.

Taxonomy: Ferrière, 1955, *loc. cit. supra*, p. 216.

\**brasiliense* Howard. Fla.; West Indies. Host: Mantid egg mass.

*Podagrion brasiliensis* Howard, 1894. Linn. Soc. London, Jour., Zool. 25: 83. ♀.

Taxonomy: Gahan, 1951. Canad. Ent. 83: 176.

*crassiclava* Gahan. Fla.; Mexico.

\**mantidiphagum* Girault. Ariz.; Mexico, West Indies. Host: Egg mass of undet. mantid.

*Podagrion mantidiphagum* Girault, 1917. Ent. 50: 37. ♀, ♂.

*mantis* Ashmead. Calif.; Mexico, Hawaii.

Biology: Gurney, 1959. Ent. Soc. Wash. Proc. 61: 23.

## Family ORMYRIDAE

## Genus ORMYRUS Westwood, pp. 533-534

\**Wania* Risbec, 1951. Inst. Franc. d'Afr. Noire Mém. 13: 294.

Type: *Wania ornata* Risbec. By monotypy.

Taxonomy: Peck, 1963, *loc. cit. supra*, p. 591.

*brunneipes* Provancher, May 1887. Que. and Ont. south to Fla. west to Mich. and Ill. Hosts: Listed under *ventricosus* Ashmead in Catalog, p. 534.

*Ormyrus ventricosus* Ashmead, Nov. 1887 (syn. by Burks, *loc. cit. supra*, p. 1259).

*vacciniicola* Ashmead.

Biology: Judd, 1959. Amer. Micro. Soc. Trans. 78: 213-214.

*ventricosus* Ashmead. Syn. of *brunneipes* Provancher.

## Family PTEROMALIDAE

## Subfamily SPHEGIGASTERINAE

## Genus SPALANGIA Latreille, p. 535

Revision: Bouček, 1963. Mus. Nat. Pragae Acta Ent. 35: 429-512.

**drosophilae** Ashmead. N., Cent., and S. America, West Indies. Hosts: *Mero-myza americana* Fh., *Oscinella frit* (L.), *O. minor* (Ad.), *O. carbonaria* (Loew), *O. soror* Macq., *Hexacola* sp., *Loxotropa* sp., *Pseudogaurax anchora* (Loew).

Biology: Simmonds, 1952. Bul. Ent. Res. 43: 533.—Simmonds, 1953. Bul. Ent. Res. 44: 773.—Simmonds, 1954. Bul. Ent. Res. 45: 527.—Simmonds, 1956. Bul. Ent. Res. 47: 361-376.

**\*endius** Walker. Cosmopolitan. Hosts: *Chrysomyia* spp., *Fannia leucosticta* (Meig.), *F. scalaris* (F.), *Haematobia exigua* Meig., *H. irritans* (L.), *Musca domestica* L., *Stomoxys calcitrans* (L.), *Sarcophaga* spp., *Ophyra anthrax* Meig., *Ceratitis capitata* (Wied.), *Dacus dorsalis* Hend., *D. ferrugineus* (F.).

*Spalangia endius* Walker, 1839. Monog. Chalc., v. 2, p. 96. ♂.

*Spalangia muscidarum* var. *stomoxysiae* Girault, 1916 (syn. by Bouček, 1963, loc. cit. supra, p. 458).

**\*Spalangia philippinensis** Fullaway, 1917. Hawaii Ent. Soc. Proc. 3: 292. ♀, ♂. (Syn. by Bouček, 1963, loc. cit. supra, p. 458.)

*Spalangia muscidarum* var. *texensis* Girault, 1920 (syn. by Bouček, 1963, loc. cit. supra, p. 458).

**\*erythromera brachyiceps** Bouček. ? Conn., ? Ont., ? Sask.; Europe. [N. Amer. specimens ref. to this subsp. with hesitation.]

*Spalangia erythromera brachyiceps* Bouček, 1963. Mus. Nat. Pragae Acta Ent. 35: 471-472. ♀, ♂.

**haematobiae** Ashmead. Ont. and Alta. south to Va. and Tex.

Taxonomy: Bouček, 1963, loc. cit. supra, pp. 475-476 (*S. impuncta* Howard a possible syn.).

**muscae** Howard. Syn. of *nigra* Latreille.

**muscarum** Girault. Syn. of *nigripes* Curtis.

**muscidarum** Richardson. Syn. of *nigroaenea* Curtis.

**\*nigra** Latreille. N. Amer.; Europe, West Indies, Hawaii. Hosts: *Musca domestica* L., *Haematobia irritans* (L.), *Stomoxys calcitrans* (L.), *Phorbia antiqua* (Meig.), *Dacus cucurbitae* Coq., *Rhagoletis completa* Cress.

*Spalangia nigra* Latreille, 1805. Hist. Nat. Crust. Ins., v. 13, p. 288.

**\*Spalangia hirta** Haliday, 1833. Ent. Mag. 1: 334. ♀. (Syn. by Bouček, 1963, loc. cit. supra, p. 443.)

*Spalangia rugosicollis* Ashmead, 1894 (Syn. by Bouček, 1963, loc. cit. supra, p. 443).

*Spalangia muscae* Howard, 1911 (syn. by Bouček, 1963, loc. cit. supra, p. 443).

**\*nigripes** Curtis. Holarctic: N. America, Europe, Asia. Hosts: *Lucilia* sp., *Fannia leucosticta* (Meig.), *F. scalaris* (F.), *Musca domestica* L., *M. d. vicina* Macq., undet. muscids.

*Spalangia nigripes* Curtis, 1839. Brit. Ent., v. 16 [3], fol. 740 [p. 2]. ♀.

**\*Spalangia hyaloptera** Foerster, 1850. Naturhist. Ver. der Preuss. Rheinl. Verhndl. 7: 509. ♀, ♂. (Syn. by Bouček, 1963, loc. cit. supra, p. 461.)

**\*Spalangia formicaria** Kieffer, 1905. Berlin Ent. Ztschr., 50: 1. ♀. (Syn. by Bouček, 1963, loc. cit. supra, p. 461.)

*Spalangia muscarum* Girault, 1920 (syn. by Bouček, 1963, loc. cit. supra, p. 461).



\***nigroaenea** Curtis. Cosmopolitan. Hosts: *Musca domestica domestica* L., *M. d. vicina* Macq., *Musca* spp., *Haematobia exigua* Meig., *Stomoxys calcitrans* (L.), *Sarcophaga* spp., *Chrysomya* spp., *Lucilia* spp., *Paratheresia claripalpis* (v. d. W.).

**Spalangia nigroaenea** Curtis, 1839. Brit. Ent., v. 16 [3], fol. 740 [p. 2]. ♂.

**Spalangia homalaspis** Foerster, 1850. Naturhist. Ver. der Preuss. Rheinl. Verhandl 7: 505. ♀, ♂, (Syn. by Bouček, 1963, *loc. cit. supra*, p. 448.)

\***Spalangia astuta** Foerster, 1851, *ibid.* 8: 1. ♀. (Syn. by Bouček, 1963, *loc. cit. supra*, p. 448.)

**Spalangia muscidarum** Richardson. 1913 (syn. by Bouček, 1963, *loc. cit. supra*, p. 448.).

**rugosicollis** Ashmead. Syn. of **nigra** Latreille.

**stomoxysiae** Girault. Syn. of **endius** Walker.

#### \*Genus CEROCEPHALA Westwood

**Cerocephala** Westwood, 1832. Mag. Zool. 2: Cl. ix, pl. 4.

Type: **Cerocephala cornigera** Westwood. By monotypy.

\***Epimacrus** Walker, 1833. Ent. Mag. 1: 368.

Type: **Epimacrus rufus** Walker. By monotypy.

\***Sciatheras** Ratzeburg, 1848. Ichn. der Forstins., v. 2, p. 209.

Type: **Sciatheras trichotus** Ratzeburg. By monotypy.

\***Parasciatheras** Masi, 1917. Nov. Zool. 24: 189.

Type: **Cerocephala caelebs** Masi. By monotypy.

\***Proamotura** Girault, 1920. Ins. Ins. Mens. 8: 143.

Type: **Proamotura aquila** Girault. By monotypy.

Taxonomy: Hedqvist, 1963, *loc. cit. supra*, pp. 127-128.

Insert in tribe Cerocephalini following **Choetospila** Westwood, p. 535.

\***dubarae** Wallace. Pa. Host: Prob. *Hadrobregmus carinatus* (Say).

**Cerocephala dubarae** Wallace, 1959. Brooklyn Ent. Soc. Bul. 54: 84. ♀, ♂.

#### Genus ACEROCEPHALA Gahan, p. 536

**atroviolacea** (Crawford). Colo., Calif. Host: *Conophthorus flexilis* Hopk.

Biology: Keen, 1958, *loc. cit. supra*, pp. 49, 98.

#### Genus ASAPHES Walker, p. 536

All species of **Asaphes** are believed to be secondary parasites of Aphididae.

**americanus** Girault. Syn. of **lucens** (Provancher).

**californicus** Girault. Colo., Wash., Oreg.

**fletcheri** (Crawford). Syn. of **lucens** (Provancher).

**lucens** (Provancher). N. B., Que., Ont., Maine south to N. C., west to Iowa and Colo. Hosts: *Aphidius testaceipes* (Cress.), *A. phorodontis* Ashm., *A. polygonaphis* (Fh.), *Diaretiella rapae* (M'Int.), *Praon aguti* Smith, *P. simulans* (Prov.).

**Megorismus fletcheri** Crawford (syn. by Burks, 1964, *loc. cit. supra*, p. 1258).

**Asaphes americanus** Girault (syn. by Burks, 1964, *loc. cit. supra*, p. 1258).

Biology: Sekhar, 1958. Ent. Soc. Amer. Ann. 51: 1-8 (*fletcheri*).

#### Genus Hyperimerus Girault, p. 537

Transf. with included sp. to Torymidae, subfamily Monodontomerinae, following **Glyphomerus** Foerster, p. 530.

#### Genus DIPARA Walker, p. 537

\***Tricoryphus** Foerster, 1856. Hym. Stud., v. 2, p. 46.

Type: *Tricoryphus fasciatus* Thomson. Included by Thomson, 1876.

\**Hispanolelaps* Mercet, 1927. Eos 3: 60.

Type: *Hispanolelaps coxalis* Mercet. Orig. desig.

Taxonomy: Bouček, 1954. Mus. Nat. Pragae Acta Ent. 29: 52, 54.

The female of this genus is wingless, commonly taken in Berlese samples; the male is winged.

Genus **APTEROLELAPS** Ashmead, p. 537

Taxonomy: Delucchi, 1958. Bol. Zool. Agr. Bachic., ser. 2, 1: 56 (syn. of *Trichoryphus* [!] Foerster).

Genus **LAMPROTATUS** Westwood, pp. 537-538

Delete **Miscogaster** Walker from syn.

Taxonomy: Delucchi, 1955. Lunds Univ. Aarskr., n. s., 50 (20): 6-10.—Peck, 1963, *loc. cit. supra*, pp. 606-608.

*abnormicolor* (Girault). Transf. to **Miscogaster** Walker.

*auratus* (Ashmead). Transf. to **Miscogaster** Walker.

*biguttus* (Girault). Transf. to **Miscogaster** Walker.

*diaeus* Walker. Maine, Minn.

*discoloripes* (Girault). Transf. to **Miscogaster** Walker.

*flora* (Girault). Transf. to **Miscogaster** Walker.

*keatsi* (Girault). Transf. to **Miscogaster** Walker.

*marylandicus* (Girault). Transf. to **Miscogaster** Walker.

*unguttus* (Girault). Transf. to **Miscogaster** Walker.

Genus **MISCOGASTER** Walker

(= *Lamprotatus* Westwood of Catalog, in part, pp. 537-538)

Delete from syn. under **Lamprotatus** Westwood and transf. with following spp. to p. 538, following **Lamprotatus**.

Taxonomy: Delucchi, 1955, *loc. cit. supra*, pp. 6-7, 55-56.—Peck, 1963, *loc. cit. supra*, pp. 608-609 (transf. of spp. from **Lamprotatus** Westwood to **Miscogaster** Walker).

*abnormicolor* Girault. Transf. from **Lamprotatus** Westwood.

*auratus* (Ashmead). Pa., Mich., Wis., Nebr.

*biguttata* Girault. Transf. from **Lamprotatus** Westwood.

*discoloripes* Girault. Transf. from **Lamprotatus** Westwood.

*flora* Girault. Transf. from **Lamprotatus** Westwood.

*keatsi* Girault. Transf. from **Lamprotatus** Westwood.

*marylandica* Girault. Transf. from **Lamprotatus** Westwood.

*ungutta* Girault. Transf. from **Lamprotatus** Westwood.

Genus **SYNTOMOPUS** Walker, p. 538

*americanus* Ashmead. N. Y. south to Fla., west to Oreg. and Calif.; Mexico.

Genus **Chrysolampus** Spinola, p. 539

Transf. with included species to Perilampidae, following **Perilampus** Latreille, p. 519.

Genus **Elatus** Walker, p. 539

Transf. with included species to Perilampidae, following **Perilampus** Latreille, p. 519.

Genus **PACHYNEURON** Walker, pp. 539-541

\**Serimus* Brèthes, 1913. Buenos Aires Mus. Nac. de Hist. Nat. Ann. 24: 90.

Type: *Serimus argentinus* Brèthes. Orig. desig.

Taxonomy: De Santis, 1957. Univ. Nac. de La Plata, Notas del Mus. 19: 118.

\**Neopachyneuron* Girault, 1917. Descr. Hym. Chalc. Var. cum Obs., pt. 5, p. 9.

Type: *Pachyneuron eros* Girault. By monotypy.

Taxonomy: Peck, 1963, *loc. cit. supra*, p. 612.

**altiscutum** Howard, ch. to Cook, *teste* Peck, 1963, *loc. cit. supra*, p. 613. N. B., D. C., S. C., Colo. Hosts: *Cremifania nigricellulata* Czerny, *Leucopis* sp., *Leucopina americana* Mall., *Neoleucopis obscura* (Hal.), *N. pinicola* Mall.

Biology: Brown and Clark, 1957 (1956). Canad. Ent. 88: 679-682.

**anthomyiae** Howard. Host: *Leucopis* sp.

**eros** Girault. B. C.

**mucronatum** Girault. Tex., Ariz.; Mexico. Host: Assoc. with coccids on *Opuntia*.

**virginicum** Girault. Maine, Ill.

Genus **CORUNA** Walker, Sup. 1, p. 74

**clavata** Walker. B. C., Alaska; Europe.

Biology: Stary, 1962. Zool. Listy 11: 267.

Genus **PACHYCREPOIDEUS** Ashmead, p. 541

\**Anisopteromalina* Bouček, 1954. Mus. Nat. Pragae, Acta Ent. 29: 57-60.

Type: *Anisopteromalina crassinervis* Bouček. Orig. desig.

Taxonomy: Bouček, 1957 (1956). Casopis 53: 165.

**vindemiae** (Rondani), corrected spelling of *vindemmiae* of Sup. 1, p. 75, *teste* Peck, 1963, *loc. cit. supra*, p. 620. Hosts: *Fannia canicularis* (L.), *F. scalaris* (Fab.), *Calliphora vicina* R.-D., *Phormia regina* (Meig.), *Lucilia sericata* (Meig.), *Anastrepha* sp.

Biology: Nostvik, 1954. Oikos 5: 195.—Steve, 1959. Jour. Econ. Ent. 52: 530.

Genus **EUNEURA** Walker, p. 541

**lachni** (Ashmead). N. B. and Maine south to Fla., west to B. C. and Calif.

Host: *Pauesia ponderosae* (Mues.) on *Cinara* sp.

Genus **HALTICOPTERA** Spinola, pp. 541-542

\**Pachylarthrus* Westwood, 1832. Phil. Mag., ser. 3, 1: 127.

Type: *Pachylarthrus insignis* Westwood. By monotypy.

Taxonomy: Nikolskaja, 1952, *loc. cit. supra*, p. 249.

**aenea** (Walker). Syn. of **patellana** Dalman.

**brodiei** Ashmead. Not *Halticoptera* Spinola; transf. to **Unplaced Species**, p. 594.

\***patellana** (Dalman). Holarctic.

*Diptolepis patellana* Dalman, 1818. K. Svenska Vetensk-Akad. Handl. 39: 80. ♀.

*Dicyclus aenea* Walker, 1833 (syn. by Ferrière, 1952. Soc. Ven. di Stor. Nat. Bol. 6: 172).

Other syn., and hosts, under **aenea** in Catalog, p. 542.

**rosae** Burks. Maine, Ont., Sask., Utah, Alaska.

Biology: Balduf, 1959. Ill. Biol. Monog. 26: 41-50, 170-173.

**stella** Girault. Ariz. Host: *Aciurina maculata* (Cole).

**\*Genus SPHEGIGASTER Spinola**(=*Trigonogastra* Ashmead of Catalog, p. 542)*Sphegigaster* Spinola, 1811. Paris Mus. Hist. Nat. Ann. 17: 149.Type: *Diplolepis pallicornis* Spinola. Desig. by Ashmead, 1904.

Taxonomy: Delucchi, 1958. Bol. Zool. Agr. e Bach., ser. 2, 1: 56.

**\*flavicornis** (Walker). B. C.; Europe. Host: *Phytomyza ilicis* Curtis.*Merismus flavicornis* Walker, 1833. Ent. Mag. 1: 377. ♂.

Biology: Cameron, 1939. Bul. Ent. Res. 30: 178-180, 192-197.

**Genus CYRTOGASTER Walker, p. 542****glasgowi** Crawford. Mo., Tex., Calif.**vulgaris** Walker. Wash.; Europe. Host: *Phytomyza nigra* Meig.**\*Genus CAPELLIA Delucchi**(=*Eurydinota* Foerster of Catalog, p. 543)*Capellia* Delucchi, 1958. Bol. Zool. Agr. e Bach., ser. 2, 1: 59.Type: *Eurydinota rufiventris* Girault. Orig. Desig.Taxonomy: Delucchi, 1958, *loc. cit. supra*, pp. 57-60.**lividicarpus** (Girault). Mass., B. C. Host: *Coleophora laricella* Hbn.Biology: Schaffner, 1959, *loc. cit. supra*, p. 88.**rufiventris** (Girault). Miss., Minn., Calif. Host: *Retinodiplosis* sp. on pine.**Genus HETEROSCHEMA Gahan, p. 543****punctata** (Ashmead). Miss., Mo.; West Indies. Host: *Ophiomyia* sp. in *Lippa* seed heads.**rugosopunctata** (Ashmead). Tex.**Genus LOPHOCOMODIA Ashmead**Transf. from **Unplaced Genera**, p. 593, to Sphegigasterini following **Heteroschema** Gahan, p. 543.**americana** Ashmead. Mich., Kans. Transf. from **Unplaced Species**, Sup. 1, p. 84, *teste* G. E. Wallace *in litt.***Subfamily PTEROMALINAE****Genus MORANILA Cameron, Sup. 1, p. 75**(=*Tomocera* Howard of Catalog, p. 543)**californica** (Howard). Calif.; Mexico, Hawaii, South Sea Isls., Australia, Africa.

Biology: Flanders, 1958. Jour. Econ. Ent. 51: 247.

**Genus EUNOTUS Walker, p. 544****\*cretaceus** Walker. N. H., N. Y.; Europe. Host: *Eriopeltis festucae* Fonsc.*Eunotus cretaceus* Walker, 1834. Ent. Mag. 2: 298. ♂.**Genus SCUTELLISTA Motschulsky, p. 544****cyanea** Motschulsky. Cosmopolitan.Biology: Clausen, 1956, *loc. cit. supra*, pp. 126, 128-129.—Flanders, 1958. Jour. Econ. Ent. 51: 247.—Flanders, 1959. Jour. Econ. Ent. 52: 596-597.—Gexho, 1960. Tirana U. Shtet. Bul. Ser. Shken. Nat. 14: 55.—Talhok, 1961. Entomophaga 6: 208.**\*Genus MACROGLENES Westwood***Macroglenes* Westwood, 1832. Phil. Mag., ser. 3, 1: 127.Type: *Macroglenes oculatus* Westwood. By monotypy.**\*Stenophrus** Foerster, 1841. Beitr. Monog. Pterom., p. 40.Type: *Stenophrus compressus* Foerster. By monotypy.

Taxonomy: Gahan and Fagan, 1923. U. S. Natl. Mus. Bul. 124, p. 136.

Insert in tribe Pirenini, before **Pirene** Haliday, p. 544.

\***penetrans** (Kirby). N. J., Ont., Mich., Oreg.; Europe. Host: *Sitodiplosis mosellana* (Gehin).

**Ichneumon penetrans** Kirby, 1800. Linn. Soc. London Trans. 5: 109.

\***Macroglenes oculatus** Westwood, 1832. Phil. Mag., ser. 3, 1: 127.

\***Stenophrus compressus** Foerster, 1841. Beitr. Monog. Pterom., p. 40.

Distribution: Peck, 1963, *loc. cit. supra*, p. 637.

Genus **PIRENE** Haliday, p. 544

**marylandensis** Girault. Transf. to **Bairamlia** Waterston, *infra*.

\*Genus **BAIRAMLIA** Waterston

**Bairamlia** Waterston, 1929. Parasitol. 21: 103.

Type: **Bairamlia fuscipes** Waterston. Orig. desig.

Insert in Tribe Pirenini following **Pirene** Haliday, p. 544.

**marylandensis** (Girault). Transf. from **Pirene** Haliday, *teste* Waterston, 1929, *loc. cit. supra*, p. 103.

\*Genus **HERBERTIA** Howard

**Herbertia** Howard, 1894. Linn. Soc. London, Jour., Zool. 25: 98.

Type: **Herbertia lucens** Howard. By monotypy.

Insert in tribe Pirenini, following **Spathopus** Ashmead, p. 544.

Revision: Burks, 1959. Ent. Soc. Wash. Proc. 61: 249-255.

\***wallacei** Burks. Pa., Md., Va., Ohio, Tex. Host: *Phytomyza ilicicola* Loew.

**Herbertia wallacei** Burks, 1959. Ent. Soc. Wash. Proc. 61: 254. ♀, ♂.

Genus **MORODORA** Gahan, p. 544

**armata** Gahan. B. C.

Genus **HEMADAS** Crawford, p. 545

**nubilipennis** (Ashmead).

Biology: Judd, 1959. Amer. Micr. Soc. Trans. 78: 212-214.

Genus **Trigonoderus** Westwood, p. 545

Transf. with included spp. to tribe Cleonymini, p. 566.

\*Genus **MACROMESUS** Walker

**Macromesus** Walker, 1848. List Hym. Brit. Mus., Chalc., pt. 2, pp. 106, 161.

Type: **Macromesus amphiretus** Walker. By monotypy.

\***Wesenbergia** Kryger, 1943. Ent. Medd. 22: 360.

Type: **Wesenbergia oculata** Kryger. Orig. desig.

Taxonomy: Graham, 1959. Ent. Mo. Mag. 95: 73-78 (Macromesinae of Pteromalidae).—Hedqvist, 1960. Ent. Tidskr. 81: 140.—Boucek, 1961. Mus. Nat. Pragae Acta Ent. 34: 57 (near Tridymini).—Hedqvist, 1963, *loc. cit. supra*, pp. 57-58 (Cheiropachinae).

Insert in tribe Tridymini after **Elachertodomyia** Girault, p. 546.

\***americanus** Hedqvist. Ariz., Oreg., Calif. Hosts: *Cylindrocopturus longulus* (Lec.), *C. eatoni* Buc., *Pseudohylesinus nebulosus* (Lec.), *Scolytus praeceps* Lec., *S. unispinosus* Lec., *S. ventralis* Lec.

**Macromesus americanus** Hedqvist, 1960. Ent. Tidskr. 81: 140. ♀, ♂.

Genus **TRIDYMUS** Ratzeburg, p. 546

**aphidis** Girault. Ark.

**gargantua** Girault. N. H., Mich., Minn. Host: Reared from gall on willow.

**nigriclavus** Girault, corrected spelling of **nigriclava** of Catalog, *teste* Peck, 1963, *loc. cit. supra*, p. 643.

**oblongus** (Provancher). Transf. from **Unplaced Species**, p. 594, *teste* Burks, 1964, *loc. cit. supra*, p. 1261.

**Genus SYSTASIS Walker, p. 547**

**diplosidis** Eckel. Fla., Ohio, Wis., Miss.

\***encyrtoides** Walker. Wis., Oreg., Alaska; Europe. Host: *Contarinia* sp.  
*Systasis encyrtoides* Walker, 1834. Ent. Mag. 2: 296. ♀, ♂.

Biology: Parnell, 1963. Roy. Ent. Soc., London Trans. 115: 271-272.

**Genus TEROBIA Foerster, p. 547**

Taxonomy: Delucchi, 1955. Soc. Roy. Ent. Belg. Mem. 27: 175 (*Ormocerus* Walker).—Peck, 1963, *loc. cit. supra*, p. 903 (N. Amer. spp. listed as unplaced).

**Tribe MERISINI**

Taxonomy: Szelényi, 1956. Mus. Nat. Hung., Ann. Hist.-Nat., n. s., 7: 167-180.

**Genus MERISUS Walker, pp. 547-548**

Taxonomy: Szelényi, 1956, *loc. cit. supra*, pp. 169-170.—Delucchi, 1956. Ztschr. f. Angew. Ent. 39: 229.

**cupraeus** (Provancher). Transf. to *Caenacis* Foerster in tribe Pteromalini, *infra*.

**destructor** (Say). Holarctic.

Taxonomy: Szelényi, 1956, *loc. cit. supra*, p. 170 (*Homoporus* Thomson).  
—Delucchi, 1957. Ztschr. f. Angew. Ent. 40: 418-419 (*Homoporus* subg. *Phaenacra* Foerster).

**febriculosus** Girault. P. E. I.

Taxonomy: Szelényi, 1956, *loc. cit. supra*, p. 168 (? syn. of *gibbiscuta* Thomson; ref. to *Homoporus* Thomson).

Biology: Cannon, 1963. Canad. Ent. 95: 34.

**mordellistenae** Crawford. Iowa, Calif.

**\*Genus HOMOPORUS Thomson**

(= *Merisoporus* Masi of Catalog, p. 548)

**Homoporus** Thomson, 1878. Hym. Scand., v. 5, pp. 60, 64.

Type: *Pteromalus fulviventris* Walker. Desig. by Ashmead, 1904.

[Not *Homoporus* Thomson, 1890, in Ichneumonidae, now considered a lapsus for *Homotropus* Thomson.]

\***Phaenacra** Foerster, 1878. Naturhist. Ver. der Preuss. Rheinl. Verhandl. 35: 51.

Type: *Phaenacra nubigera* Foerster. Orig. desig.

Taxonomy: Delucchi, 1957, *loc. cit. supra*, p. 402 (*Homoporus* subg. *Phaenacra* Foerster).—Erdős, 1953. Acad. Sci. Hung. Acta Biol. 4: 239 (syn. of *Phaenacra* Foerster).—Peck, 1963, *loc. cit. supra*, p. 650 (*Merisoporus* Masi).

**chalcidiphagus** (Walsh and Riley). Holarctic.

Taxonomy: Erdős, 1953, *loc. cit. supra*, p. 239.—Szelényi, 1956, *loc. cit. supra*, p. 168.—Delucchi, 1956, *loc. cit. supra*, pp. 417-418.

Biology: Cannon, 1963, *loc. cit. supra*, p. 34.

**Genus CALLITULA Spinola, p. 548**

Taxonomy: Szelényi, 1956, *loc. cit. supra*, pp. 167, 169-170.

**bicolor** Spinola. Holarctic.

Biology: Simmonds, 1952. Bul. Ent. Res. 43: 528-533.—Simmonds, 1953. Bul. Ent. Res. 44: 387-392.—Hemer, 1959. Ztschr. f. Angew. Ent. 44: 339.

*illinoensis* (Ashmead). Md., Va., Fla., Tenn.

Genus **PSEUDOMICROMELUS** Gahan and Fagan, p. 553

*deplanatus* (Nees). Transf. to *Cyclogastrella* Bukovskij, *infra*.

\*Genus **CYCLOGASTRELLA** Bukovskij

*Cyclogastrella* Bukovskij, 1938. Ent. Obozr. (Rev. Ent.) 27: 153.

Type: *Cyclogastrella quercina* Bukovskij. By monotypy.

Taxonomy: Graham, 1956. Ent. Mo. Mag. 92: 258.

Insert in tribe Merisini following *Callitula* Spinola, p. 548.

*deplanata* (Nees). Holarctic. Transf. from *Pseudomicromelus* Gahan and Fagan, p. 553, *teste* Graham, 1956, *loc. cit. supra*, p. 259.

Biology: Delucchi, 1962. *Awamia* 2: 123.

Genus **RHAPHITELUS** Walker, pp. 548–549

\**Eucerchysius* Brèthes, 1913. Buenos Aires Mus. Nac. de Hist. Nat. Anal. 24: 103.

Type: *Eucerchysius scolyti* Brèthes. By monotypy.

Taxonomy: De Santis, 1952. Soc. Ent. Argentina Rev. 15: 270 (generic syn.).—Hedqvist, 1963, *loc. cit. supra*, pp. 93–94.

*maculatus* Walker. Que., N. H., Pa., Wash., Oreg.; Europe.

Biology: Jamnicky, 1959. *Biologia*, Bratislava 14: 817.—Szczepanski, 1960. *Polskie Pismo Ent.* 30: 409.

Taxonomy: Hedqvist, 1963, *loc. cit. supra*, pp. 94–96.

Genus **METACOLUS** Foerster, p. 549

\**Pterosema* Foerster, 1878. *Naturh. Ver. Preuss. Rheinl. Verh.* 35: 44.

Type: *Pterosema varicolor* Foerster. Orig. desig.

Taxonomy: Bouček, 1957. *Mus. Nat. Prag. Acta Faun. Ent.* 2: 76 (generic syn.).—Hedqvist, 1963, *loc. cit. supra*, p. 97.

*fasciatus* Girault. Idaho. Hosts: Assoc. with Scolytidae in *Pinus* spp. and *Juniperus* sp.

Genus **DINOTISCUS** Ghesquière, p. 549

Taxonomy: Hedqvist, 1963, *loc. cit. supra*, p. 83.

*agrili* (Rohwer). Transf. to *Megatrydymus* Girault, p. 566.

Genus **TOMICOBIA** Ashmead, p. 566

Revision: Hedqvist, 1959. *Opusc. Ent.* 24: 177–184.

Taxonomy: Hedqvist, 1963, *loc. cit. supra*, pp. 109–110.

*peratripes* (Girault).

Taxonomy: Hedqvist, 1959, *loc. cit. supra*, p. 184.

*tibialis* Ashmead. Maine south to N. C., west to Idaho and Calif. Hosts: Adult Scolytidae.

Taxonomy: Hedqvist, 1959, *loc. cit. supra*, pp. 178–181.

Biology: Reid, 1957. *Canad. Ent.* 89: 7–8.—Ruckes, 1963. *Pan-Pacific Ent.* 39: 45.

Genus **RHOPALICUS** Foerster, pp. 549–550

Taxonomy: Hedqvist, 1963, *loc. cit. supra*, p. 71.

*pallipes* Provancher. Transf. to **Unplaced Species**, p. 594.

*pulchripennis* (Crawford). Que. and Maine south to Md. and Miss., west to Wash., Oreg., Calif. Hosts: *Pissodes terminalis* Hopping, *P. approximatus* Hopkins.

Biology: Reid, 1957, *loc. cit. supra*, p. 7.—Keen, 1958, *loc. cit. supra*, p. 100.

*tutela* (Walker). Que., Mass., N. Y., Pa., Ont., Mich.; Europe.

Biology: Nuorteva, 1956. *Acta Ent. Fenn.* 13: 64.—Chararas, 1959. *Soc.*

Ent. France Bul. 64: 11.

Taxonomy: Hedqvist, 1963, *loc. cit. supra*, pp. 71-79.

**Genus AMBLYMERUS Walker, p. 550**

Taxonomy: Graham, 1957. Ent. Mo. Mag. 93: 223 (*Platymesopus* Westwood).—von Rosen, 1958. Opusc. Ent. 23: 205 (*Mesopolobus* Westwood).—von Rosen, 1960. Ent. Tidskr. 82: 11-13 (*Mesopolobus* Westwood, in part).

**bruchophagi** (Gahan). Holarctic; N. Y. west to Man., Oreg., Calif. Hosts: *Bruchophagus* spp.

Biology: Butler and Hansen, 1958. Pan-Pacific Ent. 34: 228.—Neunzig and Gyrisco, 1959. Jour. Econ. Ent. 52: 899.

**confusus** (Ashmead). Idaho, Utah. Host: *Tomicobia tibialis* Ashm. par. on *Ips oregonis* (Eich.).

**flavipes** (Walker). [Prob. not North American.]

Taxonomy: von Rosen, 1958. Opusc. Ent. 23: 212.—Peck, 1963, *loc. cit. supra*, p. 660.

**mayetioides** (Gahan).

Taxonomy: von Rosen, 1958, *loc. cit. supra*, p. 207 (*Mesopolobus*).

**salicis** (Girault). Mo.

**verditator** (Norton). N. B., Que., and Maine south to N. J. and Pa., west to B. C. and Oreg. Hosts: *Choristoneura pinus* Free., *Dioryctria disclusa* Hein., *Epinotia nanana* (Treit.), *Neodiprion lecontei* (Fitch); may be pri. or sec. par.

Biology: Keen, 1958, *loc. cit. supra*, pp. 98-99.—Schaffner, 1959, *loc. cit. supra*, p. 88.

Taxonomy: von Rosen, 1958, *loc. cit. supra*, pp. 223-225 (*Mesopolobus*).—Finlayson, 1960. Canad. Ent. 92: 934-936, 939 (imm. stages).

**\*Genus AHLBERGIELLA von Rosen**

**Ahlbergiella** von Rosen, 1955. Ent. Tidskr. 76: 88.

Type: *Eutelus aequus* Walker. Orig. desig.

Insert in tribe Pteromalini following *Amblymerus* Walker, p. 550.

**\*aqua** (Walker). Nebr. [det. H. von Rosen]; Europe. Host: *Delphacodes pellucida* (Fab.), eggs.

**Eutelus aequus** Walker, 1834. Ent. Mag. 2: 364. ♀.

Biology and Taxonomy: von Rosen, 1955. Ent. Tidskr. 76: 88.—von Rosen, 1956. K. Lantbr. Ann. 23: 20-39.—von Rosen, 1958. Opusc. Ent. 23: 230-231 (*Mesopolobus* Westwood).

Taxonomy: Graham, 1957. Ent. Mo. Mag. 93: 222.

Biology: Raatikainen, 1962. Ann. Agr. Fenn. 1: 220 (*Mesopolobus*).

**Genus ZACALOCHLORA Crawford, pp. 550-551**

**milleri** Crawford. Colo., Idaho, Oreg. Hosts: *Laspeyresia piperana* (Kearf.), *Laspeyresia* spp. in *Pinus* spp. cones; undet. Tachinidae assoc. w. pine cones.

Biology: Keen, 1958, *loc. cit. supra*, pp. 100-102.

**Genus PLATYTERMA Walker, p. 551**

Taxonomy: von Rosen, 1958. Opusc. Ent. 23: 205 (syn. of *Mesopolobus*).

**\*nobilis** Walker. Minn., Wyo., Colo.; Europe.

**Platyterma nobile** Walker, 1834. Ent. Mag. 2: 304. ♀.

**Platyterma citripes** Ashmead (syn. by von Rosen, 1959. Ent. Tidskr. 80: 160 [*Mesopolobus*]).

**Genus COELOPISTHIA Foerster, p. 551**

**\*Kranophorus** Graham, 1956. Ent. Mo. Mag. 92: 257.

Type: *Pteromalus extentus* Walker. By monotypy.



Taxonomy: Peck, 1963, *loc. cit. supra*, p. 665 (*Kranophorus* unnecessarily proposed).

**suborbicularis** (Provancher).

Taxonomy: Burks, 1964, *loc. cit. supra*, p. 1262.

Genus **DIBRACHOIDES** Kurdjumov, p. 551

**druso** (Walker). Calif.

Biology: Clausen, 1956, *loc. cit. supra*, p. 50.—Fisher *et al.*, 1961. Jour. Econ. Ent. 54: 197.—Delucchi, 1962. Awamia 2: 124.

Taxonomy: Peck, 1963, *loc. cit. supra*, p. 667 (*dynastes*).

Genus **UROLEPIS** Walker, p. 551

**rufipes** (Ashmead). N. Y., Minn., Nebr., Kans., Tex., Utah, Oreg.

Genus **TRICHOMALUS** Thomson, p. 552

**\*perfectus** (Walker). Idaho, B. C., Wash., Oreg., Calif.; Europe. Host: *Ceutorhynchus assimilis* (Payk.).

*Pteromalus perfectus* Walker, 1835. Ent. Mag. 2: 488. ♀.

*Trichomalus fasciatus* of Catalog (misdet. *teste* Peck, 1963, *loc. cit. supra*, p. 669).

Biology: McLeod, 1953. Ent. Soc. B. C. Proc. 49: 12.—Walz, 1957. Ent. Soc. Amer. Ann. 50: 219.—Jourdeuil, 1960. Ann. Epiphyt. 11: 462.

Taxonomy: Delucchi and Graham, 1956. Beitr. z. Ent. 6: 571.

Genus **DIGLOCHIS** Foerster, p. 552

**occidentalis** (Ashmead). Wis., Man., Oreg. Hosts: *Chrysops frigidus* O. S., *C. furcatus* Walk., *C. nigripes* Zett., *Hybomitra affinis* (Kby.).

Biology: James, 1952. Ent. Soc. Ont. Ann. 82: 70.—James, 1964 (1963). Canad. Ent. 95: 1229-1231 (imm. stages).

Genus **TRITNEPTIS** Girault, p. 552

**diprionis** Gahan.

Taxonomy: Finlayson, 1963. Canad. Ent. 95: 500.

**hemerocampae** Girault. N. S., N. B., P. E. I., Tenn., N. Mex., Wash., Calif.

Hosts: *Platyrepia guttata* Bdv.; delete *Diprion hercyniae* (Htg.).

Biology: Allen, 1962. U. S. Dept. Agr. Tech. Bul. 1265, p. 102.

**klugii** (Ratzeburg). Ont., Man., Sask. Host: *Neodiprion sertifer* (Geof.).

Biology: Lejeune and Hildahl, 1954. Canad. Ent. 86: 341.—Graham, 1956. For. Sci. 2: 152.—Griffiths, 1959. Canad. Ent. 91: 508.—Schneiderman and Horwitz, 1958. Jour. Expt. Biol. 35: 520.—Drooz, 1960. U. S. Dept. Agr. Tech. Bul. 1212, p. 33.—Ohnesorge, 1962. Ztschr. f. Angew. Ent. 49: 142.

Taxonomy: Finlayson, 1963. Canad. Ent. 95: 500.

Genus **DIBRACHYS** Foerster, pp. 553-554

**cavus** (Walker). Cosmopolitan. Hosts: *Choristoneura pinus* Free., *Spilonota ocellana* (D. and S.), *Ostrinia nubilalis* (Hbn.), *Dioryctria disclusa* Hein., *Neodiprion excitans* Roh., *N. sertifer* (Geof.), *N. lecontei* (Fitch), *Apanteles glomeratus* (L.); usually a sec. par., but may be primary.

Biology: Reeks and Smith, 1956. Canad. Ent. 88: 572.—Lyons, 1957. Canad. Ent. 89: 75.—Baeva, 1959. Akad. Nauk Tadzh. SSR Inst. Zool. and Par. Trudy 119: 55, 69, 77.—Schaffner, 1959, *loc. cit. supra*, p. 89.—Richter, 1960. Ent. Ztschr. 70: 115.—Wylie, 1960. Entomophaga 5: 120.—Bendel-Janssen, 1962. Ztschr. f. Pflanzenkrankh. 9: 527.—Allen, 1962, *loc. cit. supra*, pp. 103-106.—Dixon and Benjamin, 1963. Jour. Econ. Ent. 56: 267.—Halstead, 1963. G. B. Pest Inf. Res. Bd. Rpt. 1962, pp. 5-6.

Taxonomy: Finlayson, 1960. Canad. Ent. 92: 40, 44.—Finlayson, 1963. Canad. Ent. 95: 501 (imm. stages).

**Genus EUPTEROMALUS** Kurdjumov, pp. 554-555

**dubius** (Ashmead). Minn. Host: *Lydella* sp., par. on *Ostrinia nubilalis* (Hbn.).

**hemipterus** (Walker). Holarctic. Host: *Lydella* sp., par. on *Ostrinia nubilalis* (Hbn.).

Biology: Clausen, 1956, *loc. cit. supra*, pp. 103-104.—Russo, 1959. Lab. Ent. Agr. Portici Bol. 17: 176.—Hemer, 1960. Ztschr. f. Angew. Ent. 46: 105.—Gersdorf, 1961. Ztschr. f. Angew. Ent. 47: 402.

**sarcophagae** Gahan. Idaho, Ariz.

**subapterus** (Riley). Holarctic.

**tachinae** Gahan. Ohio, Iowa, Kans., Tex. Hosts: *Ostrinia nubilalis* (Hbn.), *Hypoderma lineatum* (DeV.).

**viridescens** (Walsh). Ont., Minn., Wash.

Biology: Harcourt, 1960. Canad. Ent. 92: 423.

**Genus LARIOPHAGUS** Crawford, p. 555

Taxonomy: Graham, 1957. Ent. Mo. Mag. 93: 217.

**distinguendus** (Foerster). Cosmopolitan.

Biology and Taxonomy: Kashef, 1954. Soc. Ent. France Bul. 59: 93.—Kashef, 1956 (1955). Soc. Ent. France Ann. 124: 58-88.

Biology: Kashef, 1959. Soc. Ent. Egypte Bul. 43: 171.—Kashef, 1961. Ztschr. f. Parasitenk. 21 (1): 65-70.

**dryorhizoxeni** (Ashmead). Pa.

**texanus** Crawford. S. C., Miss., Ariz., Calif.

Biology: Hinckley, 1960. Hawaii. Ent. Soc. Proc. 17: 267.

**Genus SCHIZONOTUS** Ratzeburg, p. 555

Taxonomy: Bouček, 1958. Mus. Nat. Pragae Acta Ent. 32: 395.

**latus** (Walker). N. Mex. Delete *sieboldi* (Ratzeburg) from syn. in Sup. 1, p. 77; N. Amer. records under that name in Catalog and Sup. 1 refer to **latus** (Walker).

Taxonomy: Bouček, 1958, *loc. cit. supra*, pp. 396-398.

**Genus METASTENUS** Walker

(= *Scymnophagus* Ashmead of Catalog, p. 556)

Taxonomy: Graham, 1956. Ent. Mo. Mag. 92: 256.

**townsendi** (Ashmead). Mont.

Taxonomy: Delucchi, 1954. Bul. Ent. Res. 45: 265.—Graham, 1956, *loc. cit. supra*, p. 256.

**Genus XENOCREPIS** Foerster, p. 556

Taxonomy: Graham, 1957. Ent. Mo. Mag. 93: 235.—Bouček, 1958. Mus. Nat. Pragae Acta Ent. 32: 398.—von Rosen, 1960. Opusc. Ent. 25: 8.

Nomenclature: Peck, 1963, *loc. cit. supra*, p. 664.

\***morys** (Walker). Holarctic; Idaho, Wash., Oreg., Calif. Host: *Ceutorhynchus assimilis* (Payk.).

**Pteromalus morys** Walker, 1848. List. Hym. Brit. Mus. Chalc., pt. 2, p. 197. ♂.

**Xenocrepis pura** Mayr, 1904 (syn. by Graham, 1957, *loc. cit. supra*, p. 235).

Biology: Walz, 1957. Ent. Soc. Amer. Ann. 50: 220.—von Rosen, 1958. Opusc. Ent. 23: 234.—Jourdeuil, 1960. Ann. des Epiphyt. 11: 462.

**Genus MERAPORUS** Walker, p. 556

**requisitus** Tucker. S. C. Host: Taken in stored wheat.

**\*Genus SPANIOPUS Walker**(=*Neopolycelis* Hincks of Catalog, p. 556)

Taxonomy: Graham, 1956. Ent. Mo. Mag. 92: 250.—Peck, 1963, *loc. cit. supra*, p. 695.

**modestus** (Gahan). Ill.

Taxonomy: Graham, 1956, *loc. cit. supra*, p. 251 (? syn. of *dissimilis* Walker).

**websteri** (Ashmead). Md.

**\*Genus ARTHROLYTUS Thomson**

**Pteromalus** subg. *Arthrolytus* Thomson, 1878. Hyn. Scand., v. 5, pp. 147, 158.

Type: *Arthrolytus punctatus* Thomson. Desig. by Ashmead, 1904.

Place in tribe Pteromalini before *Psychophagus* Mayr, p. 557.

**fasciatus** (Provancher). Que., N. H., Mass., Pa. Transf. from **Unplaced Species**, p. 594, *teste* Burks, 1964, *loc. cit. supra*, p. 1262.

**Genus PSYCHOPHAGUS Mayr, p. 557**

**omnivorus** (Walker). Holarctic; Colo. Hosts: *Neodiprion lecontei* (Fitch), *Cephalcia marginata* Middk.; often a sec. par.

Taxonomy: Bakkendorf, 1955. Ent. Medd. 27: 137-143.—Bouček, 1961. Mus. Nat. Pragae Acta Ent. 34: 83.—Finlayson, 1963. Canad. Ent. 95: 499, 501-502 (imm. stages).

Biology: Bogavac, 1958. Zash. Bilja 46: 80.—Keen, 1958, *loc. cit. supra*, p. 89.—Schaffner, 1959, *loc. cit. supra*, p. 89.

**tortricidis** (Brues). Maine, Ont., Wis., Minn., Wyo. Host: *Choristoneura pinus* Free., *C. conflictant* (Walk.).

Biology: Dixon and Benjamin, 1963. Jour. Econ. Ent. 56: 267.—McGugan and Blais, 1959. Canad. Ent. 91: 766, 775-776.

**Genus CECIDOSTIBA Thomson, p. 557**

Taxonomy: Delucchi, 1957. Entomophaga 2: 140.

**acuta** (Provancher). N. S., Que., south to W. Va. west to Wash., Oreg., Calif.

Taxonomy: Burks, 1964, *loc. cit. supra*, p. 1257.

**burkei** Crawford. Colo., N. Mex., Idaho, Utah. Host: *Dendroctonus obesus* (Mann.).

**dendroctoni** Ashmead. N. C., Calif.

**polygraphi** Ashmead. Maine.

**thomsoni** Crawford. Wyo., Wash., Oreg.

**Genus CATOLACCUS Thomson, pp. 557-558, Sup. 1, p. 78**

**\*Merisoides** Masi, 1911. Lab. Zool. Gen. e Agr. Portici Bol. 5: 141.

Type: *Merisoides crassiceps* Masi. By monotypy.

Taxonomy: Delucchi, 1956. Ztschr. f. Angew. Ent. 39: 230.

**aeneoviridis** (Girault). Throughout south. Canada, entire U. S.; Mexico, West Indies. Hosts: *Apanteles medicaginis* Mues., *Hormius basalis* (Prov.), *Goniozus platynotae* Ashm.

Biology: Atkins *et al.*, 1957. Ent. Soc. Amer. Ann. 50: 257.—Allen and Smith, 1958. Hilgardia 25: 29.

**cyanoideus** Burks. Minn., Wyo.

**kansensis** (Girault). Ariz., Calif.

**victoria** Burks. Utah.

Genus **HETEROLACCUS** Masi, Sup. 1, p. 78

Taxonomy: Delucchi, 1958. Bol. Zool. Agr. e Bach., ser. 2, 1: 54.

**hunteri** (Crawford). Ky. Host: *Prionomerus calceatus* Say.

Genus **ZATROPIIS** Crawford, pp. 558–559

**albiclavus** (Girault). Mich., Wis., Idaho, Utah, Ariz. Host: *Asphondylia* sp. bud gall on *Larrea* sp.; *Dasyneura gleditschiae* O. S.

**bruchivorus** (Ashmead). Fla., Tex., Ariz., Calif.; Mexico.

**catalpae** Crawford. N. Y. west to Ill. and Minn. Hosts: *Dasyneura gleditschiae* O. S., *Hyperdiplosis phlox* Greene.

**incertus** (Ashmead). Fla., Ariz.

**niroaeneus** (Ashmead). Fla., Mo., Nebr.

**perdubius** (Girault). Mass., N. Y., N. J., D. C., Ohio, Ill. Hosts: *Anthonomus musculus* (Say), *Smicronyx tychoideus* Lec.

**rosaecolis** Burks. Mo., Nebr.

Biology: Balduf, 1959. Ill. Biol. Monog. 26, pp. 120–121.

**tortricidis** Crawford. Fla., Wis.

Genus **CAENACIS** Foerster, p. 559

**cupraeus** (Provancher). Transf. from *Merisus* Walker, p. 547, *teste* Burks. 1964, *loc. cit. supra*, p. 1261.

Genus **PSEUDOCATOLACCUS** Masi, p. 559

**americanus** Gahan. N. Mex., Utah. Host: *Asphondylia* sp. gall on *Larrea*.

Genus **MUSCIDIFURAX** Girault and Sanders, p. 559

**raptor** Girault and Sanders. Md., Nebr., Tex., Ariz., Calif.; Hawaii, West Indies, S. Amer., Africa. Hosts: *Fannia canicularis* (L.). *Stomoxys calcitrans* (L.).

Genus **NASONIA** Ashmead, pp. 559–560

Taxonomy: Hedqvist, 1963, *loc. cit. supra*, p. 125.

**vitripennis** (Walker).

Biology: Schneiderman and Horwitz, 1958. Jour. Expt. Biol. 35: 520.—Wylie, 1958. Canad. Ent. 90: 597.—Ohgushi, 1959. Zool. Soc. of Japan, Zool. Mag. 68: 426.—Ohgushi, 1961. Jap. Jour. Appl. Ent. and Zool. 5: 154.—Saunders, 1962. Jour. Insect Physiol. 8: 309.—Nagel and Pimental, 1963. Canad. Ent. 95: 208.—Wylie, 1963. Canad. Ent. 95: 881–886.—King and Hopkins, 1963. Jour. Expt. Biol. 40: 751–761.—Beard, 1964. Jour. Insect Path. 6: 1–7.—Nagel and Pimental, 1964. Ecology 45: 658–660.

Morphology: Cutler, 1955. Roy. Ent. Soc. London Proc. (A) 30: 73–81.—King, 1962. Roy. Ent. Soc. London Proc. (A) 37: 73, 121.

Genetics: Whiting, 1950. Genetics 35: 699.—Whiting, 1954. Evolution 40: 135.—Whiting, 1955. Genetics 40: 602.—Whiting, 1958. Internatl. Cong. Ent., Proc. 10, vol. 2, p. 857.—Whiting, 1958. ASB Bul. 5: 16.

Taxonomy: De Santis, 1957. Univ. Nac. de La Plata, Mus. Notas 19: 169.—Tonapi, 1958. Roy. Ent. Soc., London Trans. 110: 550.—Saul, 1960. Rev. Suisse de Zool. 67: 270.—Hedqvist, 1963, *loc. cit. supra*, pp. 125–127.

\*Genus **DINARMUS** Thomson

(= *Bruchobius* Ashmead of Catalog, p. 560)

*Dinarmus* Thomson, 1878. Hym. Scand., v. 5, pp. 50, 56.

Type: *Dinarmus acutus* Thomson. Desig. by Ashmead, 1904.

Taxonomy: Delucchi, 1956. Ztschr. f. Angew. Ent. 39: 240.—Ferrière and Delucchi, 1957. Entomophaga 2: 121.

\**acutus* (Thomson). N. J., Pa., N. C., Mich., Ky., Tenn., Minn., Nebr., Oreg., Europe. Hosts: *Bruchus brachialis* Fahr., *Bruchidius ater* (Marsham).

*Dimachus* (*Dinarmus*) *acutus* Thomson, 1878. Hym. Scand., v. 5, p. 56.  
♀.

*Sphaerakis mayri* Masi (syn. by Delucchi, 1956, *loc. cit. supra*, p. 243).

*laticeps* (Ashmead).

Taxonomy: Delucchi, 1956, *loc. cit. supra*, pp. 243-246.

Biology: Cheema and Misra, 1962. Cur. Sci. (India) 31: 21.

*mayri* (Masi). Syn. of *acutus* (Thomson).

Genus *PTEROMALUS* Swederus, pp. 560-561

*archippi* Howard. N. H. south to Fla., west to Ark., Tex., and Calif.

*fuscipes* (Provancher).

Taxonomy: Burks, 1964, *loc. cit. supra*, p. 1262.

*puparum* (Linnaeus). Cosmopolitan.

Biology: Clausen, 1956, *loc. cit. supra*, p. 49.—Blunck, 1957. Jour. Econ. Ent. 50: 836.—Wiltshire, 1958. Roy. Ent. Soc., London Trans. 110: 241.—Blunck and Wilbert, 1959 (1957). Internatl. Cong. Crop Prot. Proc. 1: 1017.

Taxonomy: Burks, 1964, *loc. cit. supra*, p. 1261 (*pieridis* Provancher).

*vanessae* Howard. Calif.

\*Genus *SPINTHERUS* Thomson

*Spintherus* Thomson, 1878. Hym. Scand., v. 5, p. 88, 129.

Type: *Spintherus obscurus* Thomson. By monotypy.

Insert in tribe Pteromalini following *Pteromalus* Swederus, p. 561.

*orchestis* (Ratzeburg), n. comb. N. Y., Ohio; Europe. Host: *Rhynchaenus pallicornis* (Say).

Genus *HABROCYTUS* Thomson, pp. 561-563

*acutiventris* Peck.

Taxonomy: Burks, 1964, *loc. cit. supra*, p. 1260 (*acutus* Provancher).

*analis* (Ashmead). Nev. Hosts: *Pemphredon giffardi* (Roh.), Chrysidid, *Omalus* sp., par. on *Pemphredon* sp.

*bedeguaris* (Thomson). Maine; Europe.

Biology: Judd, 1959. Canad. Ent. 91: 728-730.—Gijswijt, 1962. Ent. Ber. 22: 250.

*caprae* (Linnaeus). Delete; sp. is probably not a chalcid. N. Amer. records of a chalcid under this name cannot now be placed.

*giraulti* Peck (= *canadensis* Girault, 1917, not Ashmead, 1887). Transf. to *Lonchetron* Graham, *infra*.

*medicaginis* Gahan. N. Y., Mich.; Hawaii, Europe, Asia. Hosts: *Bruchophagus* spp.

Biology: Beardsley, 1956. Hawaii. Ent. Soc. Proc. 16: 11.—Butler and Hansen, 1958. Pan-Pacific Ent. 34: 228.—Carillo and Dickason, 1963. Oreg. Agr. Expt. Sta. Tech. Bul. 68, p. 31.

*melanicrus* (Provancher).

Taxonomy: Burks, 1964, *loc. cit. supra*, p. 1262.

*phycidis* Ashmead. N. B., Mich.

Biology: Dixon and Benjamin, 1963. Jour. Econ. Ent. 56: 267.

*thyridopterigis* Howard. [This may be a composite sp.] Maine and Ont. south to N. C., west to Wis., Ill., and Mo.

Biology: Schaffner, 1959, *loc. cit. supra*, p. 89.—Harman and Kulman, 1962. Jour. Econ. Ent. 55: 1007.

\*Genus **LONCHETRON** Graham

**Lonchetrion** Graham, 1956. Ann. Ent. Fenn. 22: 80.

Type: **Lonchetrion fennicum** Graham. Orig. desig.

Insert in tribe Pteromalini after **Habrocytus** Thomson, p. 563.

**giraulti** (Peck), n. comb. Transf. from **Habrocytus** Thomson; types examined.

Genus **ANISOPTEROMALUS** Ruschka, pp. 563–564

**calandrae** (Howard).

Biology: Chatterji, 1955. Zool. Soc. India Proc. 8: 11-23.—Ghani and Sweetman, 1955. Biologia (Lahore) 1: 115-139.—Cabal Concha, 1956. Fac. Nac. Agron. Colombia Rev. 18: 61.—Calderon, 1962. Riv. di Parassitol. 23: 216.

Morphology: Tonapi, 1958. Roy. Ent. Soc., London Trans. 110: 550.

Genus **TRIMEROMICRUS** Gahan, p. 564

**maculatus** Gahan. Mo., Okla., Tex., Idaho, Utah, Wash., Oreg. Hosts: *Bruchophagus* spp.

Biology: Walz, 1957. Ent. Soc. Amer. Ann. 50: 220.

Genus **SYSTELLOGASTER** Gahan, p. 564

**ovivora** Gahan. N. C., Ohio, Okla.

Biology: Judd, 1955. Canad. Ent. 87: 98.—Roth and Willis, 1960. Smithsn. Misc. Coll. 141: 248.

Genus **HYOPTEROMALUS** Ashmead, pp. 564–565

**inimicus** Muesebeck. N. B., Minn., Mo., N. Dak.

**percussor** Girault. Nev., N. Mex., Oreg. Hosts: Campoplegini par. on *Hemeroampa pseudotsugata* McD. and other Lepidoptera.

Genus **HEMITRICHUS** Thomson, p. 565

**rufipes** (Thomson). Syn. of **seniculus** (Nees).

\***seniculus** (Nees). Que. south to D. C., west to Mich. and Kans.; Europe.

**Pteromalus seniculus** Nees, 1834. Hym. Ich. Affin. Monog., v. 2, pp. 101, 423. ♀.

**Dimachus (Hemitrichus) rufipes** Thomson (syn. by Delucchi, 1955. Soc. Roy. Ent. Belg. Mem. 27: 173).

Genus **NORBANUS** Walker, p. 565

**perplexus** (Ashmead). N. J., Del., Tenn., Kans.

\*Genus **LAMPOTERMA** Graham

(= *Metastenus* of Catalog, pp. 565–566)

**Lampoterma** Graham, 1956. Ent. Mo. Mag. 92: 256 (n. gen. for *Metastenus* Thomson, not Walker).

Type: **Metastenus viridis** Thomson. Orig. desig.

Taxonomy: Peck, 1963, *loc. cit. supra*, pp. 741-742 (n. comb's.; ch. spp. name endings to neuter).

**faciale** (Provancher).

Taxonomy: Burks, 1964, *loc. cit. supra*, p. 1256.

Genus **NEOCATOLACCUS** Ashmead, p. 566

**tylodermae** (Ashmead). N. H. south to Fla. west to Mich., Ill., Kans., Ariz.

Host: *Onychobaris subtonsa* Lec.

Biology: Wester, 1956. Ent. Soc. Wash. Proc. 58: 286.

## Genus MEGATRYDYMUS Girault, p. 566

- agrili** (Rohwer). Transf. from *Dinotiscus* Ghesquière, p. 549; type re-examined.  
**taciti** Girault. N. J., Ark., Oreg., Calif. Host: Reared from cynipid galls, on oak.

## Genus HABRITYS Thomson, Sup. 1, p. 79

- latro** Wallace, emend. for *latrus*. Va. Hosts: *Ectemnius stirpicola* (Pack.), *Euplilis* sp.  
 Biology: Krombein, 1960. Ent. News 71: 32, 67.—Krombein, 1964. Biol. Soc. Wash. Proc. 77: 103.

## Tribe CLEONYMINI

Taxonomy: Kerrich and Graham, 1957. Soc. Brit. Ent. Trans. 12: 265-311.—Bouček, 1959 (1958). Mus. Nat. Pragae Acta Ent. 32: 353-386 (Cleonyminae).—Hedqvist, 1963, *loc. cit. supra*, p. 50.

## Genus HEYDENIA Foerster, p. 566

- Taxonomy: Hedqvist, 1957. Opusc. Ent. 22: 39.—Hedqvist, 1963, *loc. cit. supra*, pp. 52-53.  
**unica** Cook and Davis. Ala., Tex., Ariz., Calif.

## Genus TRIGONODERUS Westwood, p. 545

- Taxonomy: Kerrich and Graham, 1957, *loc. cit. supra*, pp. 284-285.  
 Transf. with included spp. from tribe Tridymini, p. 545, and insert in tribe Cleonymini following *Heydenia* Foerster, p. 566.  
**algonquinia** Girault. Transf. to *Platygerrhus* Thomson, *infra*.  
**conicus** Girault. Transf. to *Gastracanthus* Westwood, *infra*.  
**unguttus** Girault. Que., N. J., D. C., Ill., Tex. Host: *Euparius marmoreus* Oliv. in shelf fungi.  
 Biology: Graves, 1960. Ent. Soc. Amer. Ann. 53: 74.

## \*Genus PLATYGERRHUS Thomson

- Platygerrhus** Thomson, 1878. Hym. Scand., v. 5, pp. 4, 13.  
 Type: *Platygerrhus gracilis* Thomson. By monotypy.  
 Taxonomy: Kerrich and Graham, 1957, *loc. cit. supra*, pp. 300-303.  
 Insert in tribe Cleonymini following *Heydenia* Foerster, p. 566.  
**algonquinia** (Girault). Transf. from *Trigonoderus* Westwood, *teste* Kerrich and Graham, 1957, *loc. cit. supra*, p. 303.

## \*Genus GASTRACANTHUS Westwood

- Gastracanthus** Westwood, 1833. Mag. Nat. Hist. 6: 121.  
 Type: *Gastracanthus pulcherrimus* Westwood. By monotypy.  
 \***Hetroxys** Westwood, 1833, *loc. cit. supra*, p. 495. N. name.  
 \***Etroxys** Foerster, 1856. Hym. Stud., v. 2, pp. 66, 71. Emend.  
 \***Aetroxys** Walker, 1872. Notes on Chalc., p. 110. Emend.  
 \***Photismus** Thomson, 1878. Hym. Scand., v. 5, pp. 66, 71.  
 Type: *Photismus nubilosus* Thomson. By monotypy.  
 \***Heteroxys** Dalla Torre, 1898. Cat. Hym., v. 5, p. 101. Emend.  
 Taxonomy: Kerrich and Graham, 1957, *loc. cit. supra*, pp. 281-284.  
 Insert in tribe Cleonymini following *Heydenia* Foerster, p. 566.  
**conicus** (Girault). Que., Ont., N. Y., N. J., Md. Delete Ariz. from dist.  
 Transf. from *Trigonoderus* Westwood, *teste* Kerrich and Graham, 1957, *loc. cit. supra*, p. 283.

**\*Genus JANSSONIELLA** Kerrich

**Janssoniella** Kerrich, 1957. In Kerrich and Graham, Soc. Brit. Ent. Trans. 12: 303.

Type: **Janssoniella caudata** Kerrich. Orig. desig.

Insert in tribe Cleonymini following **Heydenia** Foerster, p. 566.

**\*caudata** Kerrich. N. J., B. C., Calif.; Europe. Host: Reared from bracket fungi.

**Janssoniella caudata** Kerrich, 1957. In Kerrich and Graham, Soc. Brit. Ent. Trans. 12: 304. ♀.

**Genus EPISTENIA** Westwood, p. 567

**\*Idiobia** Brèthes, 1927. Ent. Mitt. 16: 330.

Type: **Idiobia schmidtii** Brèthes. By monotypy.

Taxonomy: Bouček, 1959, *loc. cit. supra*, p. 381.

**coeruleata** Westwood. Va., Fla., Ariz., Calif. Hosts: *Isodontia elegans* (Smith), *Leptochilus republicanus zendaloides* (Robt.), *Trypoxylon* (*Trypargilum*) *tridentatum* Pack., *T. (T.)* sp.

Biology: Krombein, 1959. Ent. News 70: 19.

**odyneri** Ashmead. N. Mex., Ariz.

**osmia** (Ashmead). Mo., Tex. Host: *Leptochilus republicanus zendaloides* (Robt.).

**polita** (Say). D. C., N. C., Fla.

**Genus PTINOBIUS** Ashmead, p. 567

Taxonomy: Bouček, 1959, *loc. cit. supra*, p. 363 (prob. a syn. of *Cleonymus* Latreille).

**Genus CHEIROPACHUS** Westwood, pp. 567-568

Taxonomy: Hedqvist, 1963, *loc. cit. supra*, pp. 102-103.

**colon** (Linnaeus). Canada, north. U. S. and Pacific Coast; Europe.

Taxonomy: Hedqvist, 1963, *loc. cit. supra*, pp. 103-107.

**\*Genus COLOTRECHNUS** Thomson

Insert in tribe Cleonymini after **Cheiopachus** Westwood, p. 658.

**\*COLOTRECHNUS** subgenus **COLOTRECHNUS** Thomson

**Colotrechnus** Thomson, 1878. Hym. Scand., v. 5, p. 46.

Type: **Colotrechnus subcoeruleus** Thomson. By monotypy.

The typical subgenus does not occur in North America.

**\*COLOTRECHNUS** subgenus **ZANONIA** Masi

**Zanonia** Masi, 1921. Genova Mus. Civ. Stor. Nat. Ann., ser. 3, 9: 184.

Type: **Zanonia viridis** Masi. By monotypy.

Taxonomy: Masi, 1922. Soc. Ent. Ital. Bol. 54: 111 (closely rel. to *Colotrechnus* Thomson).—Delucchi, 1956. Ztschr. f. Angew. Ent. 39: 233 (syn. of *Colotrechnus* Thomson).—Burks, 1958. Fla. Ent. 41: 13 (subg. of *Colotrechnus* Thomson).

**\*ignotus** Burks. N. C., Fla., Okla., Tex., Ariz., Calif. Host: Reared from heads of *Bidens* and other Compositae.

**Colotrechnus (Zanonia) ignotus** Burks, 1958. Fla. Ent. 41: 14. ♀, ♂.

**Family EURYTOMIDAE****Genus HARMOLITA** Motschulsky, pp. 568-573

Taxonomy: Gahan, 1957. Brooklyn Ent. Soc. Bul. 52: 82-83.—Claridge, 1958. Ent. Mo. Mag. 94: 81-85 (*Tetramesa* Walker).—Claridge, 1961. Roy. Ent. Soc. London Trans. 113: 175-216 (*Tetramesa*



Walker).—Peck, 1963, *loc. cit. supra*, pp. 751-783 (*Tetramesa* Walker).

**albomaculata** (Ashmead). Holarctic.

Taxonomy and Biology: Claridge, 1961, *loc. cit. supra*, p. 211.

**agropyrophila** Phillips and Emery. Syn. of **cornuta** (Walker).

**atlantica** Phillips and Emery. Syn. of **linearis** (Walker).

**bambusae** Phillips. Ala.

\***cornuta** (Walker). Atlantic Coast west to Kans.; Europe. Host: *Agropyron repens*.

*Isosoma cornutum* Walker, 1832. Ent. Mag. 1: 19. ♂.

*Harmolita agropyrophila* Phillips and Emery (syn. by Claridge, 1961, *loc. cit. supra*, p. 212).

**dactylicola** Phillips and Emery. Syn. of **longula** (Dalman).

**festucae** Phillips and Emery. Poss. syn. of European **H. giraudi** (von Schlechtendal) *teste* Claridge, 1961, *loc. cit. supra*, p. 194.

**hordei** (Harris). P. E. I.

Biology: Cannon, 1963. Canad. Ent. 95: 28.—Sterling and MacLaren, 1964. Canad. Jour. Plant Sci. 44: 53-56.

\***linearis** (Walker). Holarctic; N. Y., Mich., Ind. Hosts: *Agropyron* spp.

*Isosoma lineare* Walker, 1832. Ent. Mag. 1: 22. ♀.

*Harmolita atlantica* Phillips and Emery (syn. by Claridge, 1961, *loc. cit. supra*, p. 192).

**lolii** Gahan. Oreg.

\***longicornis** (Walker). N. Y., S. Dak.; Europe. Host: *Phalaris arundinacea*.

*Isosoma longicorne* Walker, 1832. Ent. Mag. 1: 17. ♂.

*Harmolita phalaridis* Phillips and Poos (syn. by Claridge, 1961, *loc. cit. supra*, p. 209).

\***longula** (Dalman). Mass. and N. Y. south to Va., west to Mich., Tenn. and Utah; Europe. Host: *Dactylis glomerata*.

*Eurytoma longula* Dalman, 1820. Svenska Vetensk. Akad. Handl. 41: 173, pl. 7, fig. 15. ♂.

*Harmolita dactylicola* Phillips and Emery (syn. by Claridge, 1961, *loc. cit. supra*, p. 210).

**maculata** (Howard). England. Hosts: *Bromus* spp.

**ovata** Phillips and Emery. Sec. homonym of *Isosoma ovata* Szepliget, 1901; requires a new name, *teste* O. Peck *in litt.*

**opuntiae** Muesebeck. Tex., N. Mex., Nev., Calif.

**phalaridis** Phillips and Poos. Syn. of **longicornis** (Walker).

**tritici** (Fitch).

Taxonomy: Burks, 1964, *loc. cit. supra*, p. 1257 (*basilaris* Provancher).

#### Genus GAHANIOLA Erdős, Sup. 1, p. 79

**phyllostachitis** (Gahan). Ala.; China, Japan.

#### Genus AXIMA Walker, p. 573

**zabriskiei** Howard. Que., Va., Ind., Tex., Calif.

Biology: Krombein, 1960. Ent. News 71: 32, 68.

#### Genus MACRORILEYA Ashmead, p. 573

**oecanthi** (Riley). Ariz.

#### Genus RILEYA Ashmead, p. 573

**cecidomyiae** Ashmead. Md., N. Mex., Tex., Idaho, Ariz. Hosts: *Asphondylia* spp.

*Rileyia tegularis* Gahan, 1918, n. syn.; types re-examined.

Biology: Highland, 1964. Jour. Econ. Ent. 57: 83.

*mellea* Ashmead. Host: Reared from leaf gall on *Eugenia axillaris*.

*piercei* Crawford. Fla.

*regularis* Gahan. Syn. of *cecidomyiae* Ashmead.

Genus **CHRYSEIDA** Spinola, p. 574

\**bennetti* Burks. Tex.; Mexico, West Indies. Hosts: *Bruchus* sp. in *Cajanus cajan*, *Merobruchus* sp. in *Havardia brevifolia*.

*Chryseida bennetti* Burks, 1956. Brooklyn Ent. Soc. Bul. 51: 115. ♀.

Genus **TENUIPETIOLUS** Bugbee, Sup. 1, p. 80

*medicaginis* (Gahan). Tex., Calif.

Genus **EURYTOMA** Illiger, pp. 574-579

Delete *Eurytomocharis* from syn.; valid genus, *infra*.

Taxonomy: Hedqvist, 1963, *loc. cit. supra*, pp. 33-34.

*abnormis* Ashmead. Syn. of *conica* Provancher.

*appendigaster* (Swederus).

Taxonomy: Claridge, 1959. Ent. Mo. Mag. 95: 4.—Claridge, 1960. Ent. Medd. 29: 248 (*verticillata* Fabricius).—Peck, 1963, *loc. cit. supra*, p. 818 (*verticillata*).

Biology: Allen, 1962. U. S. Dept. Agr. Tech. Bul. 1265, pp. 106-108.

*ashmeadi* Peck (= *minuta* Ashmead, 1894, not Walker, 1832). Transf. to *Eurytomocharis* Ashmead, *infra*.

*auriceps* Walsh, changed status.

*Eurytoma auriceps auriceps* Walsh of Catalog. Raised to sp. rank (*teste* Bugbee, 1956. Ent. Soc. Amer. Ann. 49: 503).

*Eurytoma auriceps seminatrix* Walsh (syn. by Bugbee, 1956, *loc. cit. supra*, p. 503).

*Eurytoma vagabunda* Ashmead (syn. by Bugbee, 1956, *loc. cit. supra*, p. 503).

*auriceps seminatrix* Walsh. Syn. of *auriceps* Walsh.

*bicolor* Walsh. Md. Host: Reared from *Aulacidea* gall on *Lactuca*.

*bigeloviae* Ashmead. Utah, Calif.

*Eurytoma chalcidiformis* Girault (syn. by Bugbee, 1956, *loc. cit. supra*, p. 504).

*bolteri* Riley, changed status.

*Eurytoma bolteri bolteri* Riley of Catalog. Raised to sp. by Miller, 1963. Ohio Jour. Sci. 63: 72.

Biology: Miller, 1963, *loc. cit. supra*, p. 72.

\**brevivena* Bugbee. Ariz. Host: *Disholcaspis quercusglobulus* (Fitch) galls on *Quercus gambelli*.

*Eurytoma brevivena* Bugbee, 1958. Ent. Soc. Amer. Ann. 51: 198. ♀, ♂.

\**calycis* Bugbee. Ont. Host: Phytophagous in shoots of *Pinus banksiana*.

*Eurytoma calycis* Bugbee, 1961. Canad. Ent. 93: 33. ♀, ♂.

Biology: Thomas and Herdy, 1961. Canad. Ent. 93: 34-39.

\**celtigalla* Bugbee. Tex. Host: ? *Phytophaga celtiphylla* Felt gall on *Celtis* spp.

*Eurytoma celtigalla* Bugbee, 1957. Kans. Ent. Soc. Jour. 30: 49. ♀, ♂.

*chalcidiformis* Girault. Syn. of *bigeloviae* Ashmead.

*conica* Provancher. Ont. south to N. C., west to Kans. and Tex. Hosts: *Phloeosinus dentatus* (Say), scolytids in elm.

*Eurytoma phloeosini* Ashmead (syn. by Bugbee, 1956, *loc. cit. supra*, p. 504).

***Eurytoma abnormis*** (Ashmead) (syn. by Bugbee, 1956, *loc. cit. supra*, p. 504).

Taxonomy: Burks, 1964, *loc. cit. supra*, p. 1259.

***crassineura*** Ashmead. Que. south to N. C. west to Idaho and Calif. Cited in error as sec. par. of *Acrobasis comptoniella* Hulst by Schaffner, 1959, *loc. cit. supra*, p. 90; specimens re-examined by R. E. Bugbee.

***eragrostidis*** (Howard). Transf. to ***Eurytomocharis*** Ashmead, *infra*.

\****flavovultus*** Bugbee. Tex. Host: *Pachypsylla venusta* galls on *Celtis* spp.

***Eurytoma flavovultus*** Bugbee, 1957. Kans. Ent. Soc. Jour. 30: 45. ♀, ♂.

\****furva*** Bugbee. Calif. Host: *Disholcaspis washingtonensis* (Gill.) gall on *Quercus douglasii*.

***Eurytoma furva*** Bugbee, 1958. Ent. Soc. Amer. Ann. 51: 198. ♀, ♂.

***gigantea*** Walsh. Mont.

Biology: Miller, 1959. Tenn. Acad. Sci. Jour. 34: 249-251.

\****inornata*** Bugbee. Md. Hosts: *Euplilis* (*Corynopus*) *rufigaster* (Pack.), *E.* (*C.*) *coarctata modesta* (Roh.), rarely *Trypoxylon* (*Trypoxylon*) sp. nesting in *Hibiscus* stems.

***Eurytoma inornata*** Bugbee, 1962. Kans. Ent. Soc. Jour. 35: 347. ♀, ♂.

Biology: Krombein, 1964. Biol. Soc. Wash. Proc. 77: 103-104.

***juniperina juniperina*** Marcovitch. N. Dak. Host: *Juniperus scopulorum* berries.

\****levivultus*** Bugbee. Ohio. Host: *Pachypsylla gemma* Riley galls on *Celtis* sp.

***Eurytoma levivultus*** Bugbee, 1957. Kans. Ent. Soc. Jour. 30: 48. ♀, ♂.

***magdalidis*** Ashmead. N. C. Host: *Oncideres cingulata* (Say).

***minnesota*** Girault, corrected spelling of *minnesotae* of Catalog, *teste* Peck, 1963, *loc. cit. supra*, p. 803.

***muhlenbergiae*** (Howard). Transf. to ***Eurytomocharis*** Ashmead, *infra*.

***nigricoxa*** Provancher.

Taxonomy: Burks, 1964, *loc. cit. supra*, p. 1259.

***obtusiventris*** Gahan.

Biology: Miller, 1959, *loc. cit. supra*, p. 249.

***orchidearum*** (Westwood).

***Eurytoma phoenix*** Girault (syn. by Bugbee, 1956, *loc. cit. supra*, p. 504).

***pachyneuron*** Girault. P. E. I. and N. Y., south to N. C., west to B. C. and Calif. Hosts: *Harmolita* spp. in *Elymus* spp.

***Eurytoma phoebus*** Girault (syn. by Bugbee, 1956, *loc. cit. supra*, p. 503).

***Eurytoma pater*** Girault (syn. by Bugbee, 1956, *loc. cit. supra*, p. 503).

***parva*** Phillips, new status.

***Eurytoma bolteri parva*** Phillips of Catalog. Raised to sp. by Bugbee, *in litt.*

***pater*** Girault. Syn. of ***pachyneuron*** Girault.

***phloesini*** Ashmead. Syn. of ***conica*** Provancher.

***phoebus*** Girault. Syn. of ***pachyneuron*** Girault.

***phoenix*** Girault. Syn. of ***orchidearum*** (Westwood).

\****pini*** Bugbee. Que. south to Fla., west to B. C. and Wash. Hosts: *Rhyacionia* spp. in *Pinus* spp.

***Eurytoma pini*** Bugbee, 1958. Kans. Ent. Soc. Jour. 31: 197. ♀, ♂.

Biology: Watson and Arthur, 1959. Canad. Ent. 91: 480-484.—Schaffner, 1959, *loc. cit. supra*, p. 90 (*tylodermatis*).—Arthur, 1961. Canad. Ent. 93: 657.—Harman and Kulman, 1962. Jour. Econ. Ent. 55: 1007.

***punctiventris*** Walsh. Syn. of ***querciglobuli querciglobuli*** (Fitch).

- querciglobuli querciglobuli** (Fitch), changed status. N. H. south to N. C., west to Minn. and Tex. Hosts: *Disholcaspis mamma* (Cress.), *D. virens* (Ashm.), *D. quercusglobulus* (Fitch) galls on *Quercus* spp.
- Macroglenes querciglobuli** Fitch (reduced to subsp. rank by Bugbee, 1958. Ent. Soc. Amer. Ann. 51: 193-197).
- Eurytoma punctiventris** Walsh (syn. by Bugbee, 1958, *loc. cit. supra*, p. 193).
- Biology: Judd, 1957. Ent. News 68: 195.
- \***querciglobuli rubra** Bugbee. Fla., Miss. Hosts: *Disholcaspis virens* (Ashm.) and *D. spongiosa* galls on *Quercus virginiana*, *D. sp.* gall on *Q. stellata*.
- Eurytoma querciglobuli rubra** Bugbee, 1958. Ent. Soc. Amer. Ann. 51: 196. ♀.
- \***querciglobuli utahensis** Bugbee. Utah. Host: *Disholcaspis colorado* (Gill.) gall on *Quercus utahensis*.
- Eurytoma querciglobuli utahensis** Bugbee, 1958. Ent. Soc. Amer. Ann. 51: 197. ♀.
- \***sciromatis** Bugbee. N. C., Ga., Fla., La. Host: Reared from cankers on *Pinus* spp. of *Cronartium fusiforme*; may be phytophagous.
- Eurytoma sciromatis** Bugbee, 1962. Kans. Ent. Soc. Jour. 35: 346. ♀, ♂.
- \***semivenae** Bugbee. N. Y. west to Kans. and Tex. Hosts: *Pachypsylla vesicula* Riley and *P. mamma* Riley galls on *Celtis* spp.
- Eurytoma semivenae** Bugbee, 1957. Kans. Ent. Soc. Jour. 30: 47. ♀, ♂.
- solenozopheriae** Ashmead. Fla. Name prob. cited in error as sec. par. of *Bucculatrix ainshiella* Murt. by Schaffner, 1959, *loc. cit. supra*, p. 90.
- stigma** Ashmead. Nev., Calif. Hosts: *Hoplitis producta gracilis* (Mich.), *Pemphredon giffardi* (Roh.), *Solierella similis* (Bridw.), *Trypoxylon sculleni* Sandh.
- studiosa** Say. Que. and Ont. south to Fla., west to Colo. and N. Mex. Host: *Disholcaspis succinipes* (Ashm.).
- Eurytoma succinipedis** Ashmead (syn. by Bugbee, 1956, *loc. cit. supra*, p. 505).
- succinipedis** Ashmead. Syn. of *studiosa* Say.
- trioidae** (Howard). Transf. to *Eurytomocharis* Ashmead, *infra*.
- \***tumoris** Bugbee. Calif. Host: ? Phytophagous in stems and branches of *Pinus sylvestris*.
- Eurytoma tumoris** Bugbee, 1962. Kans. Ent. Soc. Jour. 35: 345. ♀, ♂.
- Biology: Stark and Koehler, 1964. Pan-Pacific Ent. 40: 41-46.
- tylodermais** Ashmead. Hosts: Curculionidae only; other published host records should be disregarded, *teste* R. E. Bugbee in *litt.* Records as par. of *Rhyacionia* spp. in Schaffner, 1959, *loc. cit. supra*, p. 90, should be referred to **pini** Bugbee.
- vagabunda** Ashmead. Syn. of **auriceps** Walsh.

#### Genus EURYTOMOCHARIS Ashmead

Delete from syn. under *Eurytoma* Illiger, p. 574, and insert as valid genus following *Eurytoma*, p. 579.

Taxonomy: Bugbee, 1956, *loc. cit. supra*, pp. 505-506.—Peck, 1963, *loc. cit. supra*, pp. 831-832.

**ashmeadi** (Peck), n. comb. Transf. from *Eurytoma* Illiger, *teste* Peck, 1963, *loc. cit. supra*, p. 831 (*minuta* Ashmead).

**eragrostidis** Howard. Transf. from *Eurytoma* Illiger; types examined.

**muhlenbergiae** (Howard). Transf. from *Eurytoma* Illiger, *teste* Bugbee, 1956, *loc. cit. supra*, p. 505.

**trioidae** Howard. Transf. from *Eurytoma* Illiger; types examined.

Genus *HEIMBRA* Cameron, Sup. 1, p. 82

**opaca** (Ashmead) [= *opacas* (!) of Sup. 1, p. 82]. Kans., N. Mex., Utah, Calif.

Genus *EUDECATOMA* Ashmead, pp. 579–582

Nomenclature: Peck, 1963, *loc. cit. supra*, pp. 833–844 (subsp. ch. to var.).

**amsterdamensis** (Girault). Syn. of *mellea* (Curtis).

**florida** (Girault), corrected spelling of *floridae* of Catalog, *teste* Peck, 1963, *loc. cit. supra*, p. 836.

\***mellea** (Curtis). Que., N. Y., Oreg.; Holarctic. Hosts listed in Catalog under *amsterdamensis* (Girault), p. 579.

*Decatoma mellea* Curtis, 1831. Brit. Ent. 8: 345. ♂ (= ♀).

*Decatoma amsterdamensis* Girault, 1917 (syn. by Claridge, 1959. Soc. Brit. Ent. Trans. 13: 152, 160).

**nubilistigma** (Walsh). N. H. Host: Reared from gall of *Euura* sp. on *Salix discolor*.

**occidentalis occidentalis** (Balduf). Utah, Oreg. Hosts: *Disholcaspis eldorensis* (Beut.), *Xanthoteras eburneum* (Bass.), twig gall on *Quercus garryana*.

**vacciniicola** (Balduf).

Biology: Judd, 1959. Amer. Micros. Soc. Trans. 78: 213.

Genus *SYSTOLE* Walker, p. 582

Taxonomy: Claridge, 1959. Ent. Mo. Mag. 95: 38.

**geniculata** Foerster.

Biology: Roberts, 1963. Jour. Econ. Ent. 56: 541.

Genus *BRUCHOPHAGUS* Ashmead, pp. 582–583

Taxonomy: Bouček, 1954. Mus. Nat. Pragae Acta Ent. 30: 76 (subg. of *Eurytoma*).—Fedoseeva, 1954. Mosk. Univ. Vestnik 9 (5): 113–118.—Fedoseeva, 1958. Zool. Zhur. 37: 1345–1351.

Biology: Burks, 1958 (1957). Ent. Soc. Wash. Proc. 59: 273–277 (hosts).—Fedoseeva, 1960. Nauch. Dok. Vyssh. Shkoly. Biol. 3: 14–18 (ecology).

\***kolobovae** Fedoseeva. Cosmopolitan. Hosts: Seeds of *Lotus* spp.

*Bruchophagus kolobovae* Fedoseeva, 1956. Akad. Nauk S.S.S.R. Dokl. 111: 491. ♀, ♂.

Taxonomy: Fedoseeva, 1958, *loc. cit. supra*, p. 1349.—Perju, 1960. Acad. R. P. Romaine, Bucharest Comun. 10: 575.—Szélenyi, 1961. Budapest. Növen. Kut. Int. Evkón 8: 133, 136.—Strong, 1962. Ent. Soc. Amer. Ann. 55: 1–4.

**mexicanus** Ashmead. Idaho, Ariz., Calif. Host: Seeds of *Astragalus mollissimus*.

\***platyptera** (Walker). Cosmopolitan. Hosts: Seeds of clovers.

*Systole platyptera* Walker, 1834. Ent. Mag. 2: 153. ♀.

*Eurytoma gibba* Boheman, 1836 (syn. by Claridge, 1959. Ent. Mo. Mag. 95: 39 [syn. questionably by Erdős, 1951. Folia Ent. Hung., n. s., 4: 60 and Hellén, 1953. Not. Ent. 33: 18]).

Biology: Carillo and Dickason, 1963. Oreg. State U. Agr. Expt. Sta. Tech. Bul. 68, p. 11 (*gibbus*).

Taxonomy: Fedoseeva, 1954, *loc. cit. supra*, pp. 115, 117 (*gibbus*).—Strong, 1962, *loc. cit. supra*, pp. 1–4 (*gibbus*).

\***roddei** (Gussakovsky). Cosmopolitan. Hosts: Seeds of *Medicago* spp.

*Euryfoma* [*Eurytoma*] *roddei* Gussakovsky in Rodd, Gussakovsky and Antova, 1933. [Pests of dry-farming crops of Cent. Asia, Tashkent], pp. 122, 150. ♀, ♂.

\**Bruchophagus gibbus medicaginis* Kolobova, 1950. Ent. Obozr. 31: 70 (syn. by Perju, *loc. cit. supra*, p. 575).

Taxonomy: Nikolskaya, 1952. Acad. Sci. U.S.S.R., Keys to Fauna of U.S.S.R. 44: 173, 175.—Fedoseeva, 1954, *loc. cit. supra*, p. 116.—Fedoseeva, 1958, *loc. cit. supra*, p. 1349.—Strong, 1962, *loc. cit. supra*, pp. 1-4.

Biology: Strong, 1962. Hilgardia 32: 229-248.—Carillo and Dickason, 1963, *loc. cit. supra*, p. 25.—Strong, Bacon, and Russell, 1963. Hilgardia 35: 1-12.

*sculptus* (Ashmead), corrected spelling of *sculpta* of Sup. 1, p. 82, *teste* Peck, 1963, *loc. cit. supra*, p. 831.

## Family CHALCEDECTIDAE

Genus CHALCEDECTUS Walker, p. 584

\**Episystole* Girault, 1927. S. Austr. Mus. Rec. 3: 317.

Type: *Episystole poeta* Girault. Orig. desig.

\**Neochalcodectus* Masi, 1936. Soc. Ent. Ital. Bol. 68: 68.

Type: *Neochalcodectus sinaiticus* Masi. By monotypy.

Taxonomy: Bouček, 1959. Mus. Nat. Pragae Acta Ent. 33: 568.

Genus EUCHRYSLA Westwood, p. 584

*hyalinipennis* Ashmead. Fla., N. Mex., Ariz. Host: *Oncideres rhodosticta* Bates.

## Family CHALCIDIDAE

### Subfamily HALTICHELLINAE

Genus HALTICHELLA Spinola, p. 584

*longicornis* Ashmead.

Biology: Allen, 1962. U. S. Dept. Agr. Tech. Bul. 1265, p. 110.

*rhyacioniae* Gahan. Mass. south to S. C. and Miss., west to Nebr. and Tex. Host: *Rhyacionia rigidana* (Fern.).

Biology: Miller and Neiswander, 1959. Ohio Agr. Expt. Sta. Res. Bul. 840, p. 18.—Schaffner, 1959, *loc. cit. supra*, p. 91.

*xanticles* (Walker). Iowa, Okla., Tex., Sask. Hosts: *Grapholitha molesta* (Busck), *Coleophora laricella* Hbn., *Exoteleia pinifoliella* (Chamb.).

Biology: Schaffner, 1959, *loc. cit. supra*, p. 91.—Allen, 1962, *loc. cit. supra*, p. 109.

Genus HOCKERIA Walker

(= *Stomatoceras* Kirby of Catalog, p. 585)

*Hockeria* Walker, 1834. Ent. Mag. 2: 21, 34.

Type: *Chalcis bispinosa* Fabricius. Desig. by Kirby, 1883.

Taxonomy: Bouček, 1951. Mus. Nat. Pragae Acta Ent. 27, Sup., p. 61.—Steffan, 1953. Feuille Nat. (Cahiers Nat.), n.s., 8: 10.—Habu, 1960. Nat. Inst. Agr. Sci. Japan Bul., ser. C, 11: 220.

Use of this generic name is provisional, to conform with preponderant usage in current literature. Since the genotype of *Stomatoceras* is a misidentified species, the case should be referred to the Internatl. Comm. on Zool. Nomencl.

*americensis* (Girault), new status.

*Stomatoceras unipunctatipennis americensis* Girault, 1918 (ch. from subsp. to sp.; types re-examined).

*eriensis* (Wallace), new status. Del. south to N. C., west to N. Dak., Kans., Tex., Calif.

*Stomatoceras rubra* var. *eriensis* Wallace, 1942 (ch. to sp. by Steffan, 1959. *Vie et Milieu* 10: 304).

*rubra* (Ashmead), new status. Calif., Mexico. Host: *Harrisina brillians* B. & McD. Ch. from subsp. to sp. by Steffan, 1959, *loc. cit. supra*, p. 304.

*tenuicornis* (Girault). Calif.

*unipunctatipennis* (Girault), new status. N. Y. south to Fla., west to Oreg., Calif. Hosts: *Neodiprion* spp.

*Stomatoceras unipunctatipennis unipunctatipennis* of Catalog (ch. from subsp. to sp.; types re-examined).

Genus **SCHWARZELLA** Ashmead, p. 585

The female of this genus has not been identified.

*arizonensis* Ashmead. N. Mex., Calif.

### Subfamily BRACHYMERIINAE

Taxonomy: Steffan, 1959. *Mus. Nat. Pragae Acta Ent.* 33: 287-290.

#### \*Tribe CRATOCENTRINI

Genus **ACANTHOCHALCIS** Cameron, p. 585

Revision: Steffan, 1959, *loc. cit. supra*, pp. 306-309.

**ACANTHOCHALCIS** subgenus **ACANTHOCHALCIS** Cameron

Changed from genus to subgenus, by Steffan, 1959, *loc. cit. supra*, p. 307.

*nigricans* Cameron. Kans., Okla.; Mexico.

\***ACANTHOCHALCIS** subgenus **BELOCHALCIS** Steffan

*Acanthocalcis* subg. *Belocalcis* Steffan, 1959. *Mus. Nat. Pragae Acta Ent.* 33: 308.

Type: *Acanthocalcis unispinosa* Girault. By monotypy.

*unispinosa* Girault. Ariz.

#### \*Tribe PHASGONOPHORINI

Genus **PHASGONOPHORA** Westwood, p. 585

*sulcata* Westwood. N. H.

Genus **TRIGONURA** Sichel, p. 586

\**Bactrochalcis* Kieffer, 1912. *Soc. Ent. de France Ann.* 80: 463.

Type: *Bactrochalcis reticulata* Kieffer. By monotypy.

Revision: Burks, 1959. *Ent. Soc. Amer. Ann.* 52: 75-81.

\**algeri* Burks. Tex., Ariz., Calif. Hosts: *Chrysobothris piuta* Wickham, *C. octocola* Lec.

*Trigonura algeri* Burks, 1959. *Ent. Soc. Amer. Ann.* 52: 77. ♀, ♂.

*californica* Rohwer. Utah, Ariz., Oreg. Host: *Chrysobothris femorata* (Olivier).

*elegans* (Provancher). Conn., Ont., N. Y., Pa., W. Va., Ark. Hosts: *Agrilus* sp., *Chrysobothris femorata* (Oliv.), *C. sexsignata* (Say), *Magdalis armicollis* (Say), *M. barbata* (Say), *M. olyra* (Hbst.), ? *Scolytus* sp.

*Trigonura hickoriae* Rohwer, 1919 (syn. by Burks, 1959, *loc. cit. supra*, p. 78).

Taxonomy: Burks, 1964, *loc. cit. supra*, p. 1260

*hickoriae* Rohwer. Syn. of *elegans* (Provancher).

\**insularis* (Cresson). Fla.; West Indies.

*Phasgonophora insularis* Cresson, 1865. Ent. Soc. Phila. Proc. 4: 102. ♀, ♂.

\**pini* Burks. B. C., Oreg., Calif.

*Trigonura pini* Burks, 1959. Ent. Soc. Amer. Ann. 52: 80. ♀, ♂.

*tarsata* (Dalla Torre). N. B., Vt., Mass., Ont., Pa., N. C., Ohio. Hosts: *Magdalis armicollis* (Say), *M. barbata* (Say).

\**ulmi* Burks. Que., Ont., N. Y., N. J., Pa., N. C., Ill., Iowa. Hosts: *Magdalis armicollis* (Say), *Scolytus quadrispinosus* Say., *Scolytus* sp.

*Trigonura ulmi* Burks, 1959. Ent. Soc. Amer. Ann. 52: 80. ♀, ♂.

### \*Tribe BRACHYMERIINI

Genus BRACHYMERIA Westwood, p. 586

Revision: Burks, 1960. Amer. Ent. Soc. Trans. 86: 225-273.

BRACHYMERIA subgenus BRACHYMERIA Westwood

Ch. from gen. to subg. by Habu, 1960. Nat. Inst. Agr. Sci. Japan Bul., Ser. C, 11, p. 144.

\**aeca* Burks. N. S., Que., Maine, south to Fla., west to B. C. and N. Mex.

Hosts: *Chaetophlepsis* sp., prob. other Tachinidae parasitic on Lepidoptera larvae, poss. also Tenthredinidae.

*Brachymeria (Brachymeria) aeca* Burks, 1960. Amer. Ent. Soc. Trans. 86: 242. ♀, ♂.

*belfragei* (Crawford). Tex.; Mexico, Honduras, Panamá.

*coloradensis* (Cresson). N. H. and Ont., south to Fla., west to B. C. and Calif.; Holarctic. Hosts: *Sarcophaga kellyi* Ald., *S. hunteri* Hough, par. on grasshoppers.

*Chalcis tachinae* Howard, 1885 (syn. by Burks, 1960, *loc. cit. supra*, p. 251).

Biology: Smith, 1957. Canad. Jour. Res. 36: 258.—Spencer, 1958. 10th Internatl. Ent. Cong. Proc. 4: 497.

\**comitator* (Walker). Fla., Tex.; Mexico south to Colombia and Brazil.

Hosts: *Ceramidia butleri* (Mos.), *C. viridis* (Druce), *C. sp.*, *Alabama argillacea* (Hbn.), *Pieris* sp.

*Chalcis comitator* Walker, 1862. Ent. Soc. London Trans., ser. 3, 1: 350. ♂.

*compsilurae* (Crawford). Maine, N. H., and Ont., south to N. C. and Tenn.; Mich., Ill., Wis., Minn., Man., Mont., south to Colo. and N. Mex., B. C., Oreg. Hosts: *Rileymyia fulvipes* (Bigot), other Tachinidae par. on Lepidoptera.

*hammari* (Crawford). Ark., Kans., Tex. west to Oreg. and Calif.; Mexico. Hosts: *Argyrotaenia citrana* (Fern.), *Carpocapsa pomonella* (L.), *Platynota stultana* (Wlshm.), *Psorosina hammondi* (Riley), ?*Cremastus cookii* Weed.

Biology: Allen, 1962. U. S. Dept. Agr. Tech. Bul. 1265, p. 110.

*fonscolombi* (Dufour). Worldwide in warm-temperate zone.

\**intermedia* (Nees). Mass., Conn.; S. Europe, Near and Middle East. Hosts: Pupae of many Lepidoptera.

*Chalcis intermedia* Nees, 1834. Hym. Ichtn. affin. Monog., v. 2, p. 29. ♂.

Distribution: Burks, 1960. Ent. News 71: 62.

*incerta* (Cresson). Fla.; West Indies, Mexico. Hosts: *Alabama argillacea* (Hbn.), *Celerio lineata* (Fab.), *Heliothis zea* (Bod.), *Laphygma frugiperda* (Sm.), *Lymire edwardsi* (Grote), *Megalopyge krugii* Dew., *M. opercularis* (A. & S.), *Neonympha* sp., *Oiketicus abbotii* Grote, *Papilio cresphontes* Cram., *Mocis latipes* (Guén.).

*louisianae* (Girault). Syn. of *columbiana* (Howard) in subg. *Pseudobrachymeria*.



- \***molestae** Burks. Md. south to Fla., west to Ind., Tenn. and Miss. Hosts: *Grapholitha molesta* (Busck), *Anchylopera platanana* Clem., *Arogalea cristifasciella* (Chamb.).
- Brachymeria (Brachymeria) molestae** Burks, 1960. Amer. Ent. Soc. Trans. 86: 245. ♀, ♂.
- ovata** (Say), changed status. Ont.; U. S. south of Maine, N. H., and Mont. Hosts: Over 100 spp. of Lepidoptera, from Psychidae to Papilionidae. Raised from subsp. to sp. rank by Burks, 1960, *loc. cit. supra*, p. 258.
- Chalcis ovata** var. **abiesae** Girault, 1917 (syn. by Burks, 1960, *loc. cit. supra*, p. 259).
- Biology: Genung, 1959. Fla. Ent. 42: 40.—Schaffner, 1959, *loc. cit. supra*, p. 91.—Allen, 1962, *loc. cit. supra*, pp. 110-111.
- ovata abiesae** Girault. Syn. of **ovata** Say.
- ovata ovata** (Say). Raised to sp. rank.
- robusta** (Cresson), corrected spelling of **robustus** of Catalog, *teste* Genung, 1958. Fla. Ent. 41: 191.
- Biology: Genung, 1959. Fla. Ent. 42: 40.
- \***russelli** Burks. Miss., Tex., N. Mex., Ariz.; Mexico. Hosts: *Coptocycla (Psalidonota) texana* (Schaeffer), *Chelymorpha cassidea* (Fab.), *Nuzonia* sp.
- Brachymeria (Brachymeria) russelli** Burks, 1960. Amer. Ent. Soc. Trans. 86: 240. ♀, ♂.
- slossonae** (Crawford.) Fla. Host: *Ephyriades brunnea floridensis* B. & C.
- tachinae** (Howard). Syn. of **coloradensis** (Cresson).
- tegularis** (Cresson). Ill. and Tenn. west to Wash., Oreg., and Calif. Host: *Hemithrixion oestriforme* B. B.
- Biology: Smith, 1957. Canad. Jour. Zool. 36: 259.—Spencer, 1958. Int. Cong. Ent. 10 Proc., v. 4, p. 501.
- \***truncata** Burks. Syn. of **truncatella** Burks.
- \***truncatella** Burks, new name. Sask., Nebr., Tex., Colo., N. Mex., Ariz., Calif.
- \***Brachymeria (Brachymeria) truncata** Burks, 1960. Amer. Ent. Soc. Trans. 86: 234. ♀, ♂. Preocc. by *Brachymeria truncata* (Schmitz), 1946.
- \***weemsi** Burks. Fla.
- Brachymeria (Brachymeria) weemsi** Burks, 1960. Amer. Ent. Soc. Trans. 86: 236. ♀.
- \***BRACHYMERIA** subgenus **GAHANULA** Burks
- Brachymeria** subg. **Gahanula** Burks, 1960. Amer. Ent. Soc. Trans. 86: 261.
- Type: **Brachymeria discreta** Gahan. Orig. desig.
- discreta** Gahan. Tex., Ariz., Calif., Hawaii; Mexico. Hosts: *Tinea* sp., ? pyraustid moth infesting *Polistes instabilis* Sauss. nest.
- discretoidea** Gahan. Tex., Ariz.; Mexico, Panamá. Host: Unident. moth infesting *Trigona amalthea* (Oliv.) nest.
- \***BRACHYMERIA** subgenus **PSEUDOBRACHYMERIA** Burks
- Brachymeria** subg. **Pseudobrachymeria** Burks, 1960. Amer. Ent. Soc. Trans. 86: 263.
- Type: **Pseudochalcis conica** Ashmead. Orig. desig.
- columbiana** (Howard). D. C., Va., Fla., La. Host: ? *Laetilia coccidivora* Comst.
- Chalcis louisianae** Girault (syn. by Burks, 1960, *loc. cit. supra*, p. 266).
- \***conica** (Ashmead). Tex.; south through Cent. Amer. to Brazil; Trinidad, W. I.

*Pseudochalcis conica* Ashmead, 1904. Carnegie Mus. Mem. 1: 407. ♀.

\**flegiae* Burks. Fla., Tex. Host: *Palpita flegia* (Cram.).

*Brachymeria (Pseudobrachymeria) flegiae* Burks, 1960. Amer. Ent. Soc. Trans. 86: 271. ♀, ♂.

\**laetiliae* Burks. N. Car., Okla., N. Mex., Ariz., Calif. Hosts: *Laetilia coccidivora* Comst., *L. zamacrella* Dyar.

*Brachymeria (Pseudobrachymeria) laetiliae* Burks, 1960. Amer. Ent. Soc. Trans. 86: 268. ♀, ♂.

*pedalis* (Cresson). Tex., Colo., N. Mex., Ariz., Calif. Hosts: *Noctuelia elautalis* (Grote), *Melitara prodenialis* Walk., *M. dentata* Grote, *Ozamia clarefacta* Dyar.

\**psyche* Burks. Fla. Host: *Oiketicus abbotii* Grote.

*Brachymeria (Pseudobrachymeria) psyche* Burks, 1960. Amer. Ent. Soc. Trans. 86: 267. ♀.

### Subfamily DIRHININAE

Genus DIRHINUS Dalman, p. 588

\**Dirrhinoidea* Girault, 1912. Arch. Naturg. 78 (A) 9: 165.

Type: *Dirrhinoidea maculata* Girault. Orig. desig.

\**Eniacella* Girault, 1913. Wis. Nat. Hist. Soc. Bul. 11: 35.

Type: *Eniacella ruficornis* Girault. Orig. desig.

Taxonomy: Habu, 1960, *loc. cit. supra*, p. 309.

*texanus* (Ashmead). Ariz., Calif.

*Dirhinus paoli* Burks, n. syn.; addl. mat. shows it to be in range of var. of *texanus* (Ashmead).

*paoli* Burks. Syn. of *texanus* (Ashmead).

### Subfamily CHALCIDINAE

Genus METADONTIA Ashmead, p. 588

*amoena* (Say). Md. south to Fla. west to Ill., Mo., Kans., Tex., N. Mex., Ariz., Calif.; Mexico, Cent. and S. America.

Genus CHALCIS Fabricius, p. 588-589

*barbara* (Cresson). Mich. In ref. to orig. descr. ch. ♂ to "♂" = ♀.

*canadensis* (Cresson).

Biology: Judd, 1953. Amer. Midl. Nat. 49: 817.

*divisa* (Walker). Calif.; Mexico.

Morphology: Daly, 1963. Ent. Soc. Amer. Ann. 56: 303.

*lasia* Burks. Ariz.

*megalomis* Burks. Oreg. Host: *Stratiomys* sp.

*phoenicapoda* Burks.

Nomenclature: Peck, 1963, *loc. cit. supra*, p. 869 (*rufipes* Kirby).

Genus SPILOCHALCIS Thomson, pp. 589-592

*albifrons* (Walsh).

Biology: Poinar and Gyrisco, 1963. Jour. Econ. Ent. 56: 534.

*dema* Burks. Pa., Calif.; Mexico.

*mariae* (Riley), corrected spelling of *maria* (Riley) of Catalog, *teste* Peck, 1963, *loc. cit. supra*, p. 881.

*nortonii* (Cresson). Conn.

Biology: Schaffner, 1959, *loc. cit. supra*, p. 91.

*odontotae* Howard. Fla.; Mexico.

*phoenica* Burks. Ariz., Calif.; Mexico.

**side** (Walker).

Biology: Arthur, 1958. *Canad. Ent.* 90: 590-595.—Schaffner, 1959, *loc. cit. supra*, p. 91.—Allen, 1962, *loc. cit. supra*, p. 111.

**xanthostigma** (Dalman). Delete; extralimital. Ont. specimen det. as this is **albifrons** (Walsh); specimen re-examined.

Genus **CERATOSMICRA** Ashmead, pp. 592-593

**debilis** (Say). Md., Ariz., Calif.; Mexico, West Indies.

## Family LEUCOSPIDIDAE

Genus **LEUCOSPIS** Fabricius, p. 593

Taxonomy: Burks, 1961. *Stud. Ent. Rio de Janeiro* 4: 540.—Habu, 1962. *Fauna Japonica*, Chalc., Leucosp., and Podagr., pp. 165-170.

**affinis affinis** Say. Hosts: *Anthidium maculosum* Cress., *Ashmeadiella aridula* Ckll., *Megachile inermis* Prov., *M. relativa* Cress., *M. gentilis* Cress., *Stelis* sp., *Hoplitis producta* (Cress.), *Osmia kincaidii* Ckll.

Biology: Medler, 1958. *Ent. News* 69: 21-24.—Medler and Koerber, 1958. *Ent. Soc. Amer. Ann.* 51: 340-344.—Medler, 1958. *Canad. Ent.* 90: 326-327.

Taxonomy: Michener, 1954. *Univ. Kans. Sci. Bul.* 35: 1743 (subsp. ch. to sp.).

**affinis floridana** Cresson. Delete Mass. from dist.; spec. discolored by cyanide. Hosts: *Megachile (Chelostomoides) georgica* Cress., *M. (Sayapis)* sp.

Nomenclature: Peck, 1963, *loc. cit. supra*, p. 894 (subsp. ch. to var.).

**birkmani** Brues. Fla., Ariz., Calif.; Mexico.

**robertsoni** Crawford. Ala.

**slossonae** Weld. Host: *Anthidiellum* sp.

**texana** Cresson. Ala.

Unplaced Genera, p. 593

**Lophocomodia** Ashmead, 1888. Transf. to Sphegigasterini following **Heteroschema** Gahan, p. 543.

**Pteratomus** Packard. Transf. to Mymaridae as syn. under **Anagrus** Haliday, p. 415.

Unplaced Species, p. 594

**Lophocomodia americana** Ashmead. Transf. to Sphegigasterini, p. 543.

**Diomorus biorhizae** Ashmead. Transf. from **Diomorus** Walker, p. 527.

Type lost; species is apparently a *Torymus*.

**Halticoptera brodiei** Ashmead. Transf. from **Halticoptera** Spinola, p. 542.

Type lost, but original description clearly not of a *Halticoptera*.

**Coccophagus brunneus** Provancher.

Taxonomy: Burks, 1964. *loc. cit. supra*, p. 1257.

**Camptoptera clavata** Provancher.

Taxonomy: Burks, 1964, *loc. cit. supra*, p. 1256.

**Semiotellus fasciatus** Provancher. Transf. to **Arthrolytus** Thomson, p. 557.

\***Solenotus fletcheri** Cockerell, 1889. *Colo. Biol. Assn. Rpt.* 6: [2].

**Entedon imbratus** Walker. Transf. to **Chrysocharis** Foerster, p. 463.

**Perilampus laevis** Provancher. Transf. to **Elatus** Walker, p. 519.

**Semiotellus minimus** Provancher.

Taxonomy: Burks, 1964, *loc. cit. supra*, p. 1262.

\**Meraporus monticola* Ashmead, 1889. Colo. Biol. Assn. Rpt. 3: [4].

*Pteromalus nigricornis* Provancher.

Taxonomy: Burks, 1964, *loc. cit. supra*, p. 1260.

*Semiotellus oblongus* Provancher. Transf. to *Tridymus* Ratzeburg, p. 546.

*Rhopalicus pallipes* Provancher. Transf. from *Rhopalicus* Foerster *teste* Burks, 1964, *loc. cit. supra*, p. 1261.

*Eulophus ramosus* Provancher.

Taxonomy: Burks, 1964, *loc. cit. supra*, p. 1258.

## Superfamily CYNIPOIDEA

### Family IBALIIDAE

Genus *IBALIA* Latreille, pp. 594–595

*ensiger* Norton.

Biology: Wickman, 1964. Pan-Pacific Ent. 40: 19.

### Family CYNIPIDAE

Taxonomy: Weld, 1957. Cynipid Galls of the Pacific Slope, 80 pp., Ann Arbor, Mich.—Weld, 1959. Cynipid Galls of the Eastern U. S., 156 pp., Ann Arbor, Mich.—Weld, 1960. Cynipid Galls of the Southwest, 52 pp., Ann Arbor, Mich. (All privately printed.)

TRYBLOGRAPHA subgenus DIDICTYUM Riley

(= *Trybliographa* subg. *Hexaplasta* Foerster of Catalog, p. 603)

Taxonomy: Weld, 1962 (1961). Ent. Soc. Wash. Proc. 63(4): 280. When *Hexaplasta* Foerster was made a synonym of *Hexacola* Foerster the name *Didictyum* was revived for *Hexaplasta* of authors and as a subgenus in *Trybliographa*.

*zigzag* Riley. Fla. Host: *Megaselia eletiae* (Comstock). In reference to o.d., add pp. 214, 500, and Amer. Ent. 3: 52, 1880.

Taxonomy: Weld, 1962, *loc. cit. supra*, p. 280.

TRYBLOGRAPHA subgenus TRYBLOGRAPHA Foerster, pp. 603–604

*rapae* (Westwood). Hosts: *Hylemyia* spp.

Biology: Wishart and Monteith, 1954. Canad. Ent. 56: 145-154, 14 figs. (early stages).

Genus SYNERGUS Hartig, pp. 610–613

\**magnificus* Weld. Calif. Reared from galls of *Disholcaspis truckeensis* (Ashmead).

*Synergus magnificus* Weld, 1957. U. S. Natl. Mus. Proc. 107: 107. ♀, ♂.

Genus CEROPTRES Hartig, p. 614

\**montensis* Weld. Calif. Reared from galls of *Andricus reniformis* McCracken and Egbert.

*Ceroptres montensis* Weld, 1957. U. S. Natl. Mus. Proc. 107: 108. ♀, ♂.

Genus NEUROTERUS Hartig, pp. 620–624

\**floricornis* Weld. Ariz. Gall on *Quercus reticulata*.

*Neuroterus floricornis* Weld, 1957. U. S. Natl. Mus. Proc. 107: 109. ♀, ♂, 0.

\**lamellae* Weld. Ariz. Gall on *Quercus subturbinella*.

*Neuroterus lamellae* Weld, 1957. U. S. Natl. Mus. Proc. 107: 109-110. ♀, 0.

\**florulentus* Weld. Calif. Gall on *Quercus dumosa* and *Q. lobata*.

*Neuroterus florulentus* Weld, 1957. U. S. Natl. Mus. Proc. 107: 110. ♀, ♂, 0.

Genus LIODORA Foerster, p. 629

\**dumosae* Weld. Calif. Gall on *Quercus dumosa*.

*Liodora dumosae* Weld, 1957. U. S. Natl. Mus. Proc. 107: 111. ♀, ♂, 0.

Genus AMPHIBOLIPS Reinhard, p. 630-631

\**murata* Weld. Fla. Gall on *Quercus myrtifolia*, *Q. pumila*, *Q. laurifolia*, and *Q. cinerea*.

*Amphibolips murata* Weld, 1957. U. S. Natl. Mus. Proc. 107: 111-112. ♀, 0.

Genus ANDRICUS Hartig, pp. 631-637

*crystallinus* Bassett. Calif.

Biology: Douth, 1960. Pan-Pacific Ent. 36(5): 167-170, ♀, ♂, 0 (describes the alternating bisexual generation on the leaves of *Quercus douglasii*).

*foliaformis* Gillette. Ariz. Gall on *Quercus bicolor*, *Q. macrocarpa*.

*Andricus foliosus* Weld, 1926: N. syn.

\**mendocinensis* Weld. Calif. Gall on *Quercus densiflora*.

*Andricus mendocinensis* Weld, 1957. U. S. Natl. Mus. Proc. 107: 112. ♀, 0.

Genus DISHOLCASPIIS Dalla Torre and Kieffer, pp. 638-640

\**edura* Weld. Ariz. Gall on *Quercus oblongifolia* and *Q. arizonica*.

*Disholcaspis edura* Weld, 1957. U. S. Natl. Mus. Proc. 107: 113. ♀, 0.

\**mamillana* Weld. Calif. Gall on *Quercus douglasii*.

*Disholcaspis mamillana* Weld, 1957. U. S. Natl. Mus. Proc. 107: 115. ♀, 0.

\**mellifica* Weld. Calif. Gall on *Quercus garryana*.

*Disholcaspis mellifica* Weld, 1957. U. S. Natl. Mus. Proc. 107: 114. ♀, 0.

\**prehensa* Weld. Calif. Gall on *Quercus dumosa*.

*Disholcaspis prehensa* Weld, 1957. U. S. Natl. Mus. Proc. 107: 113. ♀, 0.

\**spissa* Weld. Ariz. Gall on *Quercus subturbinella*, *Q. arizonica*, *Q. harardi*.

*Disholcaspis spissa* Weld, 1957. U. S. Natl. Mus. Proc. 107: 114. ♀, 0.

Genus ANTRON Kinsey, pp. 640-641

\**magdalenae* Weld. N. Mex. Gall on *Quercus subturbinella*.

*Antron magdalenae* Weld, 1957. U. S. Natl. Mus. Proc. 107: 116. ♀, 0.

Genus LOXAULUS Mayr, p. 643

\**beutenmuelleri* Weld. N. J., Pa., Ill. Gall on *Quercus rubra*, northern red oak.

*Loxaulus beutenmuelleri* Weld, 1957. U. S. Natl. Mus. Proc. 107: 116-117. ♀.

Genus DRYOCOSMUS Giraud, pp. 645-646

*dubiosus* (Fullaway). Calif. Galls on *Quercus agrifolia*.

*Dryocosmus bicornis* McCracken and Egbert (syn. by Douth, 1959. Ent. Soc. Amer. Ann. 52(1): 69-74. ♀, 0). *D. bicornis* is alternating agamic generation on the leaves.

Genus HETEROECUS Kinsey, pp. 646-647

*pacificus* (Ashmead).

Biology: Lyon, 1963. Ent. Soc. Wash. Proc. 65(3): 250-254, figs. A, B, C, D. (Describes the alternating bisexual generation on the leaves. ♀, ♂, 0.)

Genus CALLIRHYTIS Foerster, pp. 647-653

*agrifoliae* (Ashmead).

Biology: Lyon, 1964. Ent. Soc. Wash. Proc. 66(3): 193. (Describes the alternating bisexual generation on *Quercus agrifolia*. ♀, ♂, 0.)

\**balanella* Weld. Ariz. Gall on *Quercus emoryi*.

*Callirhytis balanella* Weld, 1957. U. S. Natl. Mus. Proc. 107: 117. ♀, 0.

\**floripara* Weld. Calif. Gall on *Quercus agrifolia*.

*Callirhytis floripara* Weld, 1957. U. S. Natl. Mus. Proc. 107: 118. ♀, ♂, 0.

\**glomerosa* Weld. Va. Gall on *Quercus coccinea*.

*Callirhytis glomerosa* Weld, 1957. U. S. Natl. Mus. Proc. 107: 119. ♀, 0.

\**intersita* Weld. Va. Taken ovipositing in internodes of new growth of *Quercus alba*.

*Callirhytis intersita* Weld, 1957. U. S. Natl. Mus. Proc. 107: 119. ♀.

\**medularis* Weld. Pa., Va., Ohio. Gall on *Quercus velutina* and *Q. coccinea*.

*Callirhytis medularis* Weld, 1957. U. S. Natl. Mus. Proc. 107: 121. ♀, ♂, 0.

\**perobscura* Weld. Va. Ovipositing in buds of *Quercus velutina*.

*Callirhytis perobscura* Weld, 1957. U. S. Natl. Mus. Proc. 107: 122. ♀.

*pomiformis* (Ashmead).

Biology: Lyon, 1959. So. Calif. Acad. Sci. Bul. 58(1): 33-37. (Describes the alternating bisexual generation on the leaves of *Quercus agrifolia*. ♀, ♂, 0.)

Genus Undetermined, p. 653

*Oxylabis bifoveolata* Brues, transf. from Diapriidae, p. 681 (*teste* L. Masner, who has examined the type in Amer. Mus. Nat. Hist. coll.).

*Rhodites fusiformans* Cockerell, 1890. Entomologist 23: 75. 0 only.

*Rhodites globosus* Cockerell, 1890. Entomologist 23: 75. 0 only.

*Rhodites spinosellus* Cockerell. Catalog p. 654. Delete *Nom. nud.*

### \*Superfamily EVANIOIDEA

Taxonomy: Short, 1959. Ent. Monthly Mag. 95 (1145): 217-219 (larvae).  
—Crosskey, 1962. Roy. Ent. Soc. London, Trans. 114 (Pt. 12): 399-400 (classification).

Morphology, Biology, Taxonomy: Crosskey, 1951. Roy. Ent. Soc. London, Trans. 102 (5): 247-301.

### Family EVANIIDAE

Taxonomy and Biology: Crosskey, 1951. Roy. Ent. Soc. London, Trans. 102 (5): 285-286.

Genus EVANIELLA Bradley, p. 656

*californica* (Ashmead).

Taxonomy: Snelling, 1963. Pan-Pacific Ent. 39 (2): 107-108 (♀ descr.).

*neomexicana* (Ashmead). Calif.

### Family AULACIDAE

(=Aulacinae of Catalog)

Taxonomy and Biology: Crosskey, 1951. Roy. Ent. Soc. London, Trans. 102 (5): 284-285.

Morphology: Crosskey, 1951. Roy. Ent. Soc. London, Trans. 102 (5): 247-281.

Genus PRISTAULACUS Kieffer, Sup. 1, p. 88

(=Aulacostethus Philippi, pp. 657-659)

*ater* (Westwood). Minn.

**rufitarsis** (Cresson). Alaska.

Genus **AULACUS** Jurine, pp. 659-660

**dispilus** Townes. Host: Reared from *Celtis laevigata*.

**lovei** (Ashmead). Host: *Xiphydria tibialis* Say.

## Family GASTERUPTIIDAE

(= *Gasteruptiinae* of Catalog)

Revisions: Pasteels, 1956. Mus. Congo Belge, Ann., Sci. Zool., (Ser. 8) 50: [1]-94 (No. Africa).—Pasteels, 1957. Inst. Roy. des Sci. Nat. de Belg. Mem. (ser. 2) 56: [1]-125 (Australia).—Pasteels, 1957. Soc. Roy. d'Ent. Belg., Bul. et Ann. 93 (5-6): 173-176 (New Zealand).—Pasteels, 1958. *Op. cit. supra* 94 (7-8): 169-213.

Taxonomy: Short, 1959. Ent. Monthly Mag. 95 (1145): 219.

Genus **GASTERUPTION** Latreille, p. 660

**assectator assectator** (Linnaeus). Alaska.

**kirbii kirbii** (Westwood). Mich.

**kirbii russeum** Townes. Host: *Hoplitis sambuci* Titus.

Genus **RHYDINOFOENUS** Bradley, p. 661

**barnstoni barnstoni** (Westwood). Alaska.

**floridanus bradleyi** Townes. Hosts: *Hylaues cressoni* (Ckll.); *Trypoxylon frigidum* Smith.

**pattersonae** (Melander and Brues). Host: *Dianthidium curvatum sayi* Ckll.

**tarsatorius tarsatorius** (Say). N. C.

## \*Superfamily PELECINOIDEA

Insert in Catalog before **Proctotrupoidea**, p. 655.

Taxonomy: Handlirsch, 1933. Handbuch der Zoologie, v. 4 (2), Insecta 2, p. 981.

## Family PELECINIDAE

Remove from **Proctotrupoidea**, pp. 661-662 and place in superfamily **Pelecinoidea** before **Proctotrupoidea**, p. 655.

## Superfamily PROCTOTRUPOIDEA

The families **Evaniidae** and **Gasteruptiidae** are removed to the superfamily \***Evanioidea** and the family **Pelecinidae** to the superfamily \***Pelecinoidea**.

Morphology: Pschorn-Walcher, 1955. Schweiz. Ent. Gesell. Mitt. 28: 214-219.

Phylogeny: Bradley, 1955. Soc. Roy. Ent. de Belg. Mem. 27: 129-131.—Bradley, 1958 (1956). Tenth Internatl. Congr. Ent. Proc. 1: 267.

## Family VANHORNIIDAE

Genus **VANHORNIA** Crawford, p. 662

**eucnemidarum** Crawford. Maine, N. H., Conn.

## Family ROPRONIIDAE

Genus **ROPRONIA** Provancher, p. 662

Taxonomy: Yasumatsu, 1956. *Insecta Matsumurana* 19: 117-122.—Yasumatsu, 1958. *Insecta Matsumurana* 21: 112-114.—Heqvist, 1959. *Ent. Tidskr.* 80: 137-139.

Biology: Chao, 1957. *Fukien Agr. Jour.* 5: 73-76 (*Ropronia* recorded as parasitic on sawfly larvae—first record of host for the genus).

Distribution: Yasumatsu, 1961. *Mushi* 35: 68-69.

## Family HELORIDAE

Taxonomy: Riek, 1955. *Austral. Jour. Zool.* 3: 258-265.—Pschorn-Walcher, 1955. *Schweiz. Ent. Gesell. Mitt.* 28: 233-250 (revision of Palearctic species).

Morphology: Oeser, 1961. *Berlin Zool. Mus. Mitt.* 37: 72-73 (ovipositor).

Genus **HELORUS** Latreille, p. 663

**paradoxus** (Provancher). N. B.

## Family PROCTOTRUPIDAE

Taxonomy: Riek, 1955. *Austral. Jour. Zool.* 3: 106-117 (revision of the Australian species).—Pschorn-Walcher, 1958. *Beitr. z. Ent.* 8: 724-731.—Pschorn-Walcher, 1958. *Schweiz. Ent. Gesell. Mitt.* 31: 57-64.—Masner, 1961. *Parc Nat. Upemba Miss. de Witte*, fasc. 60: 37-47 (key to the genera of the world).

Morphology: Oeser, 1961. *Berlin Zool. Mus. Mitt.* 37: 71-72 (ovipositor).

Genus **PROCTOTRUPES** Latreille, pp. 663-664

**caudatus** Say. Pa., D. C.

**cockerelli** (Brues), n. comb. Transf. from *Phaenoserphus* Kieffer, p. 664 (*teste* L. Masner upon examination of type).

**pallidus** (Say). Idaho.

**rufigaster** Provancher. N. H.

Genus **PHAENOSERPHUS** Kieffer, p. 664

**cockerelli** (Brues). Transf. to *Proctotrupes* Latreille, pp. 663-664.

**obscuripes** (Brues). Transf. to *Codrus* Panzer, pp. 665-666.

**placidus** (Brues). Transf. to *Codrus* Panzer, pp. 665-666.

**serricornis** (Brues). Transf. to *Codrus* Panzer, pp. 665-666.

**simplicior** (Brues). Transf. to *Codrus* Panzer, pp. 665-666.

Genus **CRYPTOSERPHUS** Kieffer, pp. 664-665

\**Brachyserphus* Hellen, 1941. *Notulae Ent.* 21: 42. N. syn (*teste* L. Masner).

Type: *Codrus parvulus* Nees. By orig. desig.

**abruptus** (Say). N. H., N. J., Md., W. Va., S. C.

**flavipes** (Provancher). N. B.; N. C.

**obsoletus** (Say). Fla.

Genus **CODRUS** Panzer, pp. 665-666

**longiceps** (Ashmead). Ark.

**obscuripes** (Brues), n. comb. Transf. from *Phaenoserphus* Kieffer, p. 664 (*teste* L. Masner upon examination of type).



- placidus** (Brues), n. comb. Transf. from **Phaenoserphus** Kieffer, p. 664 (*teste* L. Masner upon examination of type).
- serricornis** (Brues), n. comb. Transf. from **Phaenoserphus** Kieffer, p. 664 (*teste* L. Masner upon examination of type).
- simplicior** (Brues), n. comb. Transf. from **Phaenoserphus** Kieffer, p. 664 (*teste* L. Masner upon examination of type).

### Family CERAPHRONIDAE

Taxonomy: Dessart, 1962. Soc. Roy. Ent. de Belg. Bul. et Ann. 98: 305-309 (key to the genera of the world).

Genus **CERAPHRON** Jurine, pp. 666-668

**Allomicrops** Kieffer, 1914. Syn. by Dessart, 1963. Soc. Roy. Ent. de Belg. Bul. et Ann. 99: 524.

\***Eulagynodes** Girault, 1917. New Javanese Hymenoptera, p. 9 (Private pub.). Syn. by Masner, 1964. Acta Soc. Ent. Čechosl. 61: 126.

Type: **Eulagynodes bicolor** Girault. By monotypy and orig. desig.

**abnormis** Perkins. Transf. from **Allomicrops** Kieffer, *teste* Dessart, 1963. Soc. Roy. Ent. de Belg. Bul. et Ann. 99: 523.

\***Eulagynodes bicolor** Girault, 1917. New Javanese Hymenoptera, p. 9 (private pub.). ♀. Syn. by Masner, 1964. Acta Soc. Ent. Čechosl. 61: 126.

**longicornis** Ashmead. Transf. to **Lagynodes** Foerster, p. 669.

**salicicola** Ashmead. Transf. to **Aphanogmus** Thomson, p. 668.

Genus **APHANOGMUS** Thomson, p. 668

Taxonomy: Dessart, 1962. Soc. Roy. Ent. de Belg. Bul. et Ann. 98: 294-300.—Dessart, 1963. Soc. Roy. Ent. de Belg. Bul. et Ann. 99: 387-416.—Dessart, 1964. Soc. Roy. Ent. de Belg. Bul. et Ann. 100: 259-278.

**floridanus** Ashmead. Ohio. Host: *Mycodiplosis* sp.

**salicicola** (Ashmead), n. comb. Transf. from **Ceraphron** Jurine, p. 667 (*teste* L. Masner).

Genus **Allomicrops** Kieffer, p. 669

Syn. of **Ceraphron** Jurine, *supra*.

**abnormis** (Perkins). Transf. to **Ceraphron** Jurine, p. 666.

Genus **LAGYNODES** Foerster, p. 669

**longicornis** (Ashmead), n. comb. Transf. from **Ceraphron** Jurine, p. 667 (*teste* L. Masner).

Genus **ATRITOMELLUS** Kieffer, p. 669

**conwentziae** (Gahan). Transf. from **Dendrocerus** Ratzeburg, p. 672 (*teste* Masner, 1964. Acta. Soc. Ent. Čechosl. 61: 126).

**conwentziae** var. **rufus** (Gahan). Transf. from **Dendrocerus** Ratzeburg, p. 672 (*teste* Masner, *loc. cit. supra*). Calif.

Genus **LYGOCERUS** Foerster, pp. 669-670

Biology: Muesebeck, 1959. Ent. News 57: 91.

**anomaliventris** (Ashmead), n. comb. Transf. from **Conostigmus** Dahlbohm, p. 670 (*teste* L. Masner).

\***attentus** Muesebeck. Maine. Hosts: Aphidiinae in *Macrosiphum euphorbiae* (Thomas).

**Lygocerus attentus** Muesebeck, 1959. Ent. News 57: 94. ♀, ♂.

\***incompletus** Muesebeck. Maine. Hosts: Aphidiinae in *Macrosiphum euphorbiae* (Thomas).

*Lygocerus incompletus* Muesebeck, 1959. Ent. News 57: 96. ♀, ♂.

\***latifrons** Muesebeck. Calif. Host: Species of Hemerobiidae.

*Lygocerus latifrons* Muesebeck, 1959. Ent. News 57: 93. ♀, ♂.

\***leucopidis** Muesebeck. Calif. Host: *Leucopis* sp.

*Lygocerus latifrons* Muesebeck, 1959. Ent. News 57: 93. ♀, ♂.

\***pinicola** Muesebeck. Calif. Host: *Leucopis atrifacies* Aldrich.

*Lygocerus pinicola* Muesebeck, 1959. Ent. News 57: 92. ♀, ♂.

#### Genus **CONOSTIGMUS** Dahlbom, pp. 670–671

*Conostigmoides* Dodd, 1914. Syn. by Masner, 1964. Acta Soc. Ent. Čechosl. 61: 124.

**anomaliventris** (Ashmead). Transf. to *Lygocerus* Foerster, p. 669.

**erythrothorax** (Ashmead). Transf. from *Conostigmoides* Dodd, p. 672, *teste* L. Masner.

Taxonomy: Masner, 1964. Acta Soc. Ent. Čechosl. 61: 124–125.

#### Genus *Conostigmoides* Dodd, p. 672

Syn. of *Conostigmus* Dahlbom, *supra*.

**erythrothorax** (Ashmead). Transf. to *Conostigmus* Dahlbom, p. 670.

#### Genus **DENDROCERUS** Ratzeburg, p. 672

Delete; a valid genus but without known Nearctic species. Transf. the N. Amer. forms to *Atritomellus* Kieffer, p. 669 (*teste* Masner, 1964. Acta Soc. Ent. Čechosl. 61: 125).

### Family **DIAPRIIDAE**

Taxonomy: Nixon, 1957. Roy. Ent. Soc., London Handbooks 8 (3): 3.—Masner, 1961. Inst. Sci. de Madagascar Mem. 12: 289–292.

#### Subfamily **DIAPRIINAE**

Taxonomy: Risbec, 1950. Contribution a l'Etude des Proctotrupidae. Fr. W. Africa, Trav. du Lab. d'Ent. du Secteur Soudanais de Recherches Agron., pp. 224–225 (key to African genera).—Masner, 1961. Inst. Sci. de Madagascar Mem. 12: 292.

#### Genus **BRUESOPRIA** Wing, Sup. 1, p. 89

**americana** (Brues). D. C.

#### Genus **AUXOPAEDEUTES** Brues, p. 672

*Cracinopria* Fouts. Syn. by Masner, 1964. Acta Ent. Soc. Čechosl. 61: 135. All species listed under *Cracinopria* in Catalog are n. combs. in *Auxopaedeutes*. Endings of names requiring agreement in gender should be changed to masculine.

#### Genus **MYRMECOPRIA** Ashmead, p. 673

**mellea** (Ashmead).

Taxonomy: Masner, 1964. Acta Soc. Ent. Čechosl. 61: 123. Redescription, with first description of female.

#### Genus *Adeliopra* Ashmead, p. 673

Syn. of *Entomacis* Foerster, *infra*.

**longii** Ashmead. Transf. to *Entomacis* Foerster, *infra*.

## Genus ENTOMACIS Foerster, p. 673

*Hemilexis* Foerster, 1856. See 1st Sup. p. 90.

*Hemilexodes* Ashmead, 1893. N. syn. (*teste* L. Masner).

*Adeliopria* Ashmead, 1902. Syn. by Masner, 1964. Acta Soc. Ent. Čechosl. 61: 134.

*floridana* (Ashmead), n. comb. Transf. with *Hemilexodes*, 1st Sup. p. 90 (*teste* L. Masner).

*longii* (Ashmead). Transf. from *Adeliopria* Ashmead, *teste* L. Masner. Taxonomy: Masner, 1964, *loc. cit. supra*, p. 134.

## Genus Apamesius Kieffer, p. 673

Syn. of *Paramesius* Westwood, *infra*. Transf. included spp. to that genus.

## Genus PARAMESIUS Westwood, p. 674

\**Lipoglyptus* Crawford, 1910. U. S. Natl. Mus. Proc. 38: 123 (through synonymy with *Apamesius* Kieffer, *teste* Baltazar, 1961. Philippine Jour. Sci. 90: 395).

Type: *Lipoglyptus primus* Crawford. By monotypy and orig. desig.

*Apamesius* Kieffer, 1913. N. syn. (*teste* L. Masner). Cite *analis* (Ashmead) and *nigriclavus* (Fouts) as n. combs, and remove parentheses from author of *clavipes*.

## Genus ANEURHYNCHUS Westwood, pp. 674-675

*Glyptonota* Foerster, 1856. Syn. by Masner and Sundholm, 1959. Acta Soc. Ent. Čechosl. 56: 164.

*nigriclavatus* (Ashmead). Transf. from *Glyptonota* Foerster, p. 677. Taxonomy: Masner and Sundholm, 1959, *loc. cit. supra*, pp. 162-163.

## Genus SPILOMICRUS Westwood, pp. 675-676

*Loxotropa* Foerster, 1856. Syn. by Masner, 1964. Entomophaga 9: 82.

\**Eriopria* Kieffer, 1910. In André, Spec. Hym. Eur. Alg., v. 10, pp. 693, 744. Syn. by Masner, 1964 (*loc. cit. supra*, p. 82).

Type: *Eriopria nigra* Kieffer. Desig. by Kieffer, 1912.

\**Tritopria* Kieffer, 1910. *Loc. cit. supra*, pp. 717, 748. Syn. by Masner, 1964 (*loc. cit. supra*, p. 82).

Type: *Tritopria lusitanica* Kieffer. By monotypy.

\**Cologlyptus* Crawford, 1910. U. S. Natl. Mus. Proc. 38: 123. N. syn. (*teste* L. Masner).

Type: *Cologlyptus kiefferi* Crawford. By monotypy and orig. desig.

\**Scutellipria* Szabó, 1961. Mus. Nat. Hungarici, Ann. Hist.-Nat. 53: 493. Syn. by Masner, 1964 (*loc. cit. supra*, p. 82).

Type: *Scutellipria quinquepunctata* Szabó. By monotypy and orig. desig.

\**foutsii* Masner, n. name. Replaces *kiefferi* Fouts, preocc.

*kiefferi* Fouts. Preocc. Replaced by *foutsii* Masner.

## \*Genus PENTAPRIA Kieffer

(= *Xenopria* Fouts, p. 676)

*Pentapria* Kieffer, 1905. Mus. Civ. Stor. Nat. Genova, ser. 3, 2: 34.

Type: *Pentapria conjugens* Kieffer. First included species.

*Xenopria* Fouts, 1939. Syn. by Masner, 1964. Acta Soc. Ent. Čechosl. 61: 134.

*columbiana* (Fouts).

Taxonomy: Masner, 1964, *loc. cit. supra*, p. 134.

**Genus *Phaenopria* Ashmead, pp. 676-677**

Syn. of *Trichopria* Ashmead, p. 678; transf. included spp. to that genus.

**Genus *Glyptonota* Foerster, p. 677**

Syn. of *Aneurhynchus* Westwood, p. 674.

*nigroclavata* Ashmead. Transf. to *Aneurhynchus* Westwood, p. 674.

**Genus *Acidopria* Kieffer, p. 677**

Syn. of *Basalys* Westwood, p. 680.

**Genus *Loxotropa*, Foerster, p. 677**

Syn. of *Spilomicrus* Westwood, p. 675; *Loxotropa* of Catalog = *Basalys* Westwood, p. 680. Transf. spp. included in *Loxotropa* in Catalog to *Basalys*.

**Genus *TRICHOPRIA* Ashmead, pp. 678-680**

*Phaenopria* Ashmead. Syn. by Sundholm, 1960. *Opuscula Ent.* 25: 220. All species listed in Catalog are transf. here as n. combs.

Delete *Ceratopria* Ashmead from syn. and transf. to syn. of *Basalys* Westwood, p. 680.

Taxonomy: Sundholm, *loc. cit. supra*, pp. 215-223.—Masner, 1964. *Acta Soc. Ent. Cechosl.* 61: 136.

*bifoveolata* (Ashmead). Return to *Trichopria* Ashmead from *Ceratopria* Ashmead where it was transf. in Sup. 1, p. 90.

*columbiana* (Ashmead). Minn.

*floridana* (Ashmead). Return to *Trichopria* Ashmead from *Ceratopria* Ashmead where it was transf. in Sup. 1, p. 90.

*infuscaticeps* (Ashmead). Return to *Trichopria* Ashmead from *Ceratopria* Ashmead where it was transf. in Sup. 1, p. 90.

*longiceps* (Ashmead). Transf. to *Basalys* Westwood, p. 680.

*megaplasta* (Ashmead). Return to *Trichopria* Ashmead from *Ceratopria* Ashmead where it was transf. in Sup. 1, p. 90.

*popei* (Muesebeck). N. Y., Minn. Hosts: *Dictya* sp., *Elgiva rufa* (Panz.). Biology: Knutson and Berg, 1963. *Canad. Ent.* 95: 724-726.

*pusilla* (Ashmead). Transf. to *Basalys* Westwood, p. 680.

*simulans* (Ashmead). Transf. to *Diapria* Latreille, p. 680.

*tabanivora* Fouts. Misspelled *tabanviora* in Catalog. N. Y., Ala., Fla. Host: *Tabanus lineola* F.

*virginica* (Ashmead). Transf. with *Phaenopria*; preocc. in *Trichopria*; replaced by *virginiensis* L. Masner, n. name.

\**virginiensis* Masner, n. name. Replaces *Phaenopria virginica* Ashmead nec *Diapria virginica* Ashmead, both now in *Trichopria*.

**Genus *Cracinopria* Fouts, p. 680**

Syn. of *Auxopaedentes* Brues, p. 672; transf. all included species to that genus.

**Genus *BASALYS* Westwood, p. 680**

(= *Loxotropa* Foerster of Catalog, p. 677)

*Ceratopria* Ashmead, 1893. Remove from syn. under *Trichopria* Ashmead. Syn. by Masner, 1964. *Entomophaga* 9: 85.

*Acidopria* Kieffer, 1913. Syn. by Masner, 1964 (*loc. cit. supra*, p. 85).

\**Tropidopsis* Ashmead, 1893. U. S. Natl. Mus. Bul. 45, pp. 386, 402. N. syn. (teste L. Masner).

Type: *Tropidopsis clavata* Ashmead. By monotypy and orig. desig.

\**Nesopria* Muesebeck and Walkley, 1956. N. name for *Tropidopsis* Ashmead, preocc. N. syn. (*teste* L. Masner).

Taxonomy: Masner, 1964. Entomophaga 9: 85-86.

All species listed in the Catalog under *Acidopria* Kieffer and *Loxotropa* Foerster, p. 677, are transf. to *Basalys* as n. combs. (*teste* L. Masner).

*longiceps* (Ashmead). Transf. from *Trichopria* Ashmead, p. 679 (*teste* Masner, 1964. Entomophaga 9: 86).

*pusilla* (Ashmead), n. comb. Transf. from *Trichopria* Ashmead, p. 679 (*teste* L. Masner).

Genus *DIAPRIA* Latreille, p. 680

Taxonomy: Sundholm, 1960. Opusc. Ent. 25: 215-223.

*simulans* (Ashmead), n. comb. Transf. from *Trichopria* Ashmead, p. 679 (*teste* L. Masner).

Genus *DOLIOPRIA* Kieffer, p. 681

*americana* Fouts.

Taxonomy: Masner, 1964. Acta Soc. Ent. Čechosl. 61: 135.

Genus *Prosynacra* Kieffer, p. 681

Syn. of \**Synacra* Foerster (= *Paratelopsilus* Whittaker) p. 690.

*gracilis* Fouts. Transf. to *Synacra* Foerster.

### \*Subfamily AMBOSITRINAE

Place in Diapriidae after *Prosynacra* Kieffer, p. 681.

Taxonomy: Masner, 1961. Inst. Sci. de Madagascar Mem. 12: 289-295.

Genus *PROPSILOMMA* Kieffer, p. 683

Transf. from subfam. Cinetinae (replaced by subfam. Belytinae in Sup. 1, p. 91) to subfam. Ambositrinae.

### \*Subfamily ISMARINAE

Place in Diapriidae before Subfam. Cinetinae, p. 681 (replaced in Sup. 1 by Belytinae).

Taxonomy: Hellén, 1963. Fauna Fennica 14: 4.

Genus *ISMARUS* Haliday, p. 681

Transf. from subfam. Cinetinae (replaced by Belytinae in Sup. 1, p. 91) to subfam. Ismarinae.

Biology: Chambers, 1955. Ent. Monthly Mag. 91: 114-115.

Taxonomy: Nixon, 1957. Roy. Ent. Soc., London, Handbooks 8 (3): 11.

### Subfamily BELYTINAE

Taxonomy: Nixon, 1957. Roy. Ent. Soc., London, Handbooks 8 (3), 107 pp. (Keys to the British species).—Masner, 1961. Inst. Sci. de Madagascar Mem. 12: 292.

Genus *OXYLABIS* Foerster, p. 681

Taxonomy: Nixon, 1957. Roy. Ent. Soc., London, Handbooks 8 (3): 27.

*bifoveolata* Brues. Remove from *Oxylabis*, p. 681, and from Proctotrupoidea; a species of Cynipoidea (*teste* L. Masner upon examination of type).

*fuscicornis* (Ashmead), n. comb. Transf. from *Aclista* Foerster, p. 687 (*teste* L. Masner).

Genus **BELYTA** Jurine, Sup. 1, p. 91

\***Paraclista** Kieffer, 1909. In André, Spec. Hym. Eur. Alg., v. 10, p. 476. Syn. by Masner, 1965. Brit. Mus. Nat. Hist. Bul., Ent. Sup. 1: 63.

Type: **Belyta brachyptera** Thomson. Desig. by Kieffer, 1910.

All species listed in Catalog under **Cinetus** Jurine, pp. 682-683, belong here (see Sup. 1, p. 91). Endings of names requiring agreement in gender should be changed to feminine.

**frontalis** Ashmead. Transf. from **Aclista** Foerster, p. 687 (*teste* L. Masner).

**nasuta** (Provancher), n. comb. Transf. from **Cinetus** Jurine, Sup. 1, p. 91 (*teste* L. Masner).

**picipes** (Ashmead, n. comb. Transf. from **Aclista** Foerster, p. 687 (*teste* L. Masner).

Genus **ZYGOTA** Foerster, pp. 683-684

**longicornis** (Ashmead), n. comb. Transf. from **Aclista** Foerster, p. 688 (*teste* L. Masner).

Genus **MACROHYNNIS** Foerster, p. 684

\***Cinelaptus** Nixon, 1957. Roy. Ent. Soc., London, Handbooks 8 (3): 7, 91. N. syn. (*teste* L. Masner).

Type: **Cinelaptus fragilis** Nixon. By monotypy and orig. desig.

Genus **MIOTA** Foerster, pp. 684-685

Synonymized under **Cinetus** Foerster by Muesebeck, 1958, Agr. Monogr. No. 2, Sup. 1, p. 91, and by Masner, 1964, Acta Soc. Ent. Čechosl. 61: 126, but now restored as a valid genus with **Leptorhaptus** authors, not Foerster, as synonym. Most of the species listed in the Catalog under **Leptorhaptus** are transferred here (*teste* L. Masner).

\***Leptonetus** Masner, 1964. Acta Soc. Ent. Čechosl. 61: 128. N. syn. (*teste* L. Masner).

Type: **Cinetus politus** Thomson. By orig. desig.

**alaskensis** (Ashmead), n. comb. Transf. from **Aclista** Foerster, p. 686 (*teste* L. Masner).

**americana** (Ashmead), n. comb. Transf. from **Cinetus** Jurine, Sup. 1, p. 91 (*teste* L. Masner).

**ashmeadi** (Kieffer), n. comb. Transf. from **Leptorhaptus** Foerster, p. 685 (*teste* L. Masner).

**bakeri** (Kieffer), n. comb. Transf. from **Leptorhaptus** Foerster, p. 685 (*teste* L. Masner).

**bisulcata** (Kieffer), n. comb. Transf. from **Leptorhaptus** Foerster, p. 685 (*teste* L. Masner).

**clarimontis** (Kieffer), n. comb. Transf. from **Leptorhaptus** Foerster, p. 685 (*teste* L. Masner).

**coloradensis** (Ashmead). Transf. to **Cinetus** Jurine, Sup. 1, p. 91.

**filicornis** (Kieffer), n. comb. Transf. from **Leptorhaptus** Foerster, p. 685 (*teste* L. Masner).

**flavicornis** Kieffer. Transf. from **Leptorhaptus** Foerster, p. 685 (*teste* L. Masner).

**longinervis** (Kieffer), n. comb. Transf. from **Leptorhaptus** Foerster, p. 685 (*teste* L. Masner).

**pleuralis** (Fouts). Transf. to **Cinetus** Jurine, Sup. 1, p. 91.

**rufa** (Ashmead), n. comb. Transf. from **Leptorhaptus** Foerster, p. 685 (*teste* L. Masner).

*vera* (Fouts), n. comb. Transf. from *Scorpioteleia* Ashmead, p. 685 (*teste* L. Masner).

Taxonomy: Masner, 1964. Acta Soc. Ent. Čechosl. 61:129.

Genus *CINETUS* Jurine, Sup. 1, p. 91

(=*Leptorhaptus* Foerster, p. 685; *Stylidon* Ashmead, p. 685)

Remove *Miota* Foerster from synonymy; a valid genus. Both *Leptorhaptus* Foerster and *Stylidolon* Ashmead are now considered synonyms of *Cinetus* Jurine (*teste* Masner, 1964. Acta Soc. Ent. Čechosl. 61: 126). However, of the species listed in the Catalog under *Leptorhaptus* only *conicus* Ashmead and *texanus* (Ashmead) belong in *Cinetus*; the remainder are transf. to *Miota* Foerster, p. 684 (*teste* L. Masner).

*americanus* (Ashmead). Transf. to *Miota* Foerster, p. 684.

*coloradensis* (Ashmead), n. comb. Transf. from *Miota* Foerster, p. 684 (*teste* L. Masner).

*conicus* (Ashmead). Transf. from *Leptorhaptus* Foerster, p. 685 (*teste* Masner, 1964. Acta Soc. Ent. Čechosl. 61: 128).

*nasutus* Provancher. Transf. to *Belyta* Jurine, Sup. 1, p. 91.

*pleuralis* Fouts. Transf. from *Miota* Foerster, p. 685 (*teste* L. Masner).

*politus* (Ashmead). Preocc. when transf. from *Stylidolon* Ashmead to *Cinetus* Jurine. Replaced by *subpolitus* Masner.

*ruficornis* (Ashmead), n. comb. Transf. from *Aclista* Foerster, p. 688 (*teste* L. Masner).

*subpolitus* Masner. Replaces *Stylidolon politum* Ashmead, preocc. when transf. to *Cinetus*, *teste* Masner, 1964. Acta Soc. Ent. Čechosl. 61: 128.

*texanus* (Ashmead), n. comb. Transf. from *Leptorhaptus* Foerster, p. 685 (*teste* L. Masner).

Genus *SCORPIOTELEIA* Ashmead, p. 685

Taxonomy: Masner, 1964. Acta Soc. Ent. Čechosl. 61: 130.

*vera* Fouts. Transf. to *Miota* Foerster, p. 684.

Genus *ACLISTA* Foerster, pp. 685-689

*Pantoclis* Foerster. Remove from syn.; an independent genus (*teste* Nixon, 1957. Roy. Ent. Soc., London, Handbooks 8 (3): 11, 41).

*Zelotypa* Foerster. Remove from syn. under *Aclista* and place as syn. of *Pantoclis* Foerster.

*aculeata* (Kieffer). Transf. to *Pantoclis* Foerster.

*alaskensis* (Ashmead). Transf. to *Miota* Foerster, p. 684.

*analis* (Ashmead). Transf. to *Pantoclis* Foerster.

*bakeri* (Kieffer). Transf. to *Pantoclis* Foerster.

*bruesi* (Kieffer). Transf. to *Pantoclis* Foerster.

*californica* (Ashmead). Transf. to *Pantoclis* Foerster.

*canadensis* (Ashmead). Transf. to *Pantoclis* Foerster.

*clinoneura* (Kieffer). Transf. to *Pantoclis* Foerster.

*coloradensis* (Ashmead). Transf. to *Pantoclis* Foerster.

*consimilis* Muesebeck. Transf. to *Pantoclis* Foerster.

*dubiosa* (Kieffer). Transf. to *Pantoclis* Foerster.

*duplicata* Muesebeck and Walkley. Transf. to *Pantoclis* Foerster.

*flavicrus* (Kieffer). Transf. to *Pantoclis* Foerster.

*floridana* (Ashmead). Transf. to *Pantoclis* Foerster.

- frontalis* (Ashmead). Transf. to *Belyta* Jurine, Sup. 1, p. 91.  
*fuscicornis* (Ashmead). Transf. to *Oxylabis* Foerster, p. 681.  
*georgica* (Ashmead). Transf. to *Pantoclis* Foerster.  
*integrifrons* (Kieffer). Transf. to *Pantoclis* Foerster.  
*klagesi* (Kieffer). Transf. to *Pantoclis* Foerster.  
*jeannettensis* Muesebeck and Walkley. Transf. to *Pantoclis* Foerster.  
*longicornis* (Ashmead). Transf. to *Zygota* Foerster, p. 683.  
*monilicornis* (Ashmead). Transf. to *Pantoclis* Foerster.  
*montana* (Ashmead). Transf. to *Pantoclis* Foerster.  
*orthoneura* (Kieffer). Transf. to *Pantoclis* Foerster.  
*picipes* (Ashmead). Transf. to *Belyta* Jurine, Sup. 1, p. 91.  
*rufescens* (Ashmead). Transf. to *Pantoclis* Foerster.  
*ruficauda* (Ashmead). Transf. to *Pantoclis* Foerster.  
*ruficornis* (Ashmead). Transf. to *Cinetus* Jurine, Sup. 1, p. 91.  
*scutellata aptera* (Kieffer). Raised to specific rank and transf. to *Pantoclis* Foerster.  
*singularis* (Kieffer). Transf. to *Pantoclis* Foerster.  
*subfusca* (Kieffer). Transf. to *Pantoclis* Foerster.  
*subobtusa* (Kieffer). Transf. to *Pantoclis* Foerster.

**Genus PANTOCLIS Foerster, p. 686**

Remove from syn. under *Aclista* Foerster and treat as valid genus, *teste* Nixon, 1957. Roy. Ent. Soc., London, Handbooks 81 (3): 11, 41; place after *Aclista*, p. 689.

*Zelotypa* Foerster; remove from syn. of *Aclista* Foerster. N. syn. (*teste* L. Masner).

- aculeata* Kieffer. Transf. from *Aclista* Foerster, p. 686 (*teste* L. Masner).  
*analis* Ashmead. Transf. from *Aclista* Foerster, p. 686 (*teste* L. Masner).  
*aptera* Kieffer, changed status.  
*Pantoclis scutellata aptera* Kieffer. Raised to specific rank and transf. from *Aclista* Foerster, p. 689 (*teste* L. Masner).  
*bakeri* Kieffer. Transf. from *Aclista* Foerster, p. 686 (*teste* L. Masner).  
*bruesi* Kieffer. Transf. from *Aclista* Foerster, p. 686 (*teste* L. Masner).  
*californica* (Ashmead). Transf. from *Aclista* Foerster, p. 686 (*teste* L. Masner).  
*canadensis* Ashmead. Transf. from *Aclista* Foerster, p. 686 (*teste* L. Masner).  
*clinoneura* Kieffer. Transf. from *Aclista* Foerster, p. 686 (*teste* L. Masner).  
*coloradensis* (Ashmead), n. comb. Transf. from *Aclista* Foerster, p. 686 (*teste* L. Masner).  
*consimilis* (Muesebeck), n. comb. Transf. from *Aclista* Foerster, Sup. 1, p. 91, (*teste* L. Masner).  
*dubiosa* Kieffer. Transf. from *Aclista* Foerster, p. 687 (*teste* L. Masner).  
*duplicata* (Muesebeck and Walkley), n. comb. Transf. from *Aclista* Foerster, p. 686 (*teste* L. Masner).  
*flavicrus* Kieffer. Transf. from *Aclista* Foerster, p. 687 (*teste* L. Masner).  
*floridana* Ashmead. Transf. from *Aclista* Foerster, p. 687 (*teste* L. Masner).  
*georgica* (Ashmead). Transf. from *Aclista* Foerster, p. 687 (*teste* L. Masner).



- integrifrons** Kieffer. Transf. from *Aclista* Foerster, p. 687 (*teste* L. Masner).  
**jeannettensis** (Muesebeck and Walkley), n. comb. Transf. from *Aclista* Foerster, p. 688 (*teste* L. Masner).  
**klagesi** Kieffer. Transf. from *Aclista* Foerster, p. 687 (*teste* L. Masner).  
**monilicornis** (Ashmead), n. comb. Transf. from *Aclista* Foerster, p. 688 (*teste* L. Masner).  
**montana** Ashmead. Transf. from *Aclista* Foerster, p. 688 (*teste* L. Masner).  
**orthoneura** Kieffer. Transf. from *Aclista* Foerster, p. 688 (*teste* L. Masner).  
**rufescens** Ashmead. Transf. from *Aclista* Foerster, p. 688 (*teste* L. Masner).  
**ruficauda** Ashmead. Transf. from *Aclista* Foerster, p. 688 (*teste* L. Masner).  
**singularis** Kieffer. Transf. from *Aclista* Foerster, p. 689 (*teste* L. Masner).  
**subfusca** Kieffer. Transf. from *Aclista* Foerster, p. 689 (*teste* L. Masner).  
**subobtusa** Kieffer. Transf. from *Aclista* Foerster, p. 689 (*teste* L. Masner).

Genus **ACROPIESTA** Foerster, p. 689

- \**Pantopiesta* Maneval, 1939. Soc. Ent. France Bul. 44: 169, 170. Syn. by Nixon, 1957. Roy. Ent. Soc., London, Handbooks 8 (3): 24.

Type: *Cinetus flaviventris* Thomson. By monotypy and orig. desig.

Genus **RHYNCHOPSILUS** Kieffer, p. 689

- \**Brunnicophilus* Nixon, 1931. Ent. Rec. and Jour. Variation 43: 83. Syn. by Nixon, 1957. Roy. Ent., London, Handbooks 8 (3): 13.

Type: *Brunnicophilus donisthorpei* Nixon. By monotypy and orig. desig.

Genus **POLYPEZA** Foerster, Sup. 1, p. 89

(= *Atelopsilus* Kieffer, pp. 689-690)

- Syn. by Masner, 1964. Acta Soc. Ent. Čechosl. 61: 131. Remove from Diapriinae to Belytinae where it replaces *Atelopsilus* Kieffer, p. 689.

Taxonomy: Masner and Sundholm, 1959. Acta Soc. Ent. Čechosl. 56: 164.—Masner, 1964, *loc. cit. supra*, p. 131.

- alaskensis** (Ashmead), n. comb. Transf. from *Spilomicrus* Westwood, p. 675 (*teste* L. Masner).

- brunnea** (Ashmead).

Taxonomy: Masner, 1964, *loc. cit. supra*, p. 131.

\*Genus **SYNACRA** Foerster

- Synacra* Foerster, 1856. Hym. Stud., v. 2, pp. 128, 130, 134.

Type: *Diapria brachialis* Nees. Desig. by Ashmead, 1893.

- \**Artibolus* Haliday, 1857. Nat. Hist. Rev. 4: Proc. p. 173.

Type: *Diapria brachialis* Nees. Desig. by Muesebeck and Walkley, 1956. Isogenotypic with *Synacra* Foerster.

- \**Neuropria* Kieffer, 1904. Soc. Hist. Nat. Metz Bul. 23: 53. Syn. by Pschorn-Walcher, 1957. Schweiz. Ent. Gesell. Mitt. 30: 74.

Type: *Neuropria sociabilis* Kieffer. By monotypy.

- Prosynacra* Kieffer, 1905. N. syn. (*teste* L. Masner).

- Paratelopsilus* Whittaker, 1930. Syn. by Masner, 1964. Acta Soc. Ent. Čechosl. 61: 131.

Place at end of subfam. Belytinae.

Taxonomy: Pschorn-Walcher, 1957. Schweiz. Ent. Gesell. Mitt. 30: 74-76.

- canadensis** (Whittaker).

Taxonomy: Masner, 1964. Acta Soc. Ent. Čechosl. 61: 131-132.

*gracilis* (Fouts), n. comb. Transf. from *Prosynacra* Kieffer, p. 681 (*teste* L. Masner).

## Family SCELIONIDAE

### Subfamily TELENOMINAE

Genus *ARADOPHAGUS* Ashmead, p. 690

*fasciatus* Ashmead. Tex.; Europe.

Genus *TIPHODYTES* Bradley, p. 690

*gerriphagus* (Marchal). Calif.

Genus *EUMICROSOMA* Gahan, p. 690

\**Nardo* Nixon, 1938. Ann. Mag. Nat. Hist. (11), 1: 278. Syn. by Masner, 1965. Brit. Mus. Nat. Hist. Bul., Ent. Sup. 1: 108.

Type: *Nardo cumaeus* Nixon. By orig. desig.

\**Szelenyiella* Szabó, 1957. Opusc. Zool. 2: 49. Syn. by Masner, 1965, *loc. cit. supra*, p. 108.

Type: *Szelenyiella platythoracis* Szabó. By monotypy and orig. desig.

*beneficum* Gahan. U.S.S.R.

*bicolor* (Ashmead). Mich. Host: Unknown eggs on *Poa compressa*.

Genus *PROTRIMORUS* Kieffer, p. 690

Transf. to Scelioninae as a syn. of *Opisthacantha* Ashmead (*teste* Masner, 1964. Acta Soc. Ent. Čechosl. 61: 140).

**TELENOMUS** subgenus **TELENOMUS** Haliday, pp. 691–694

*alsophilae* Viereck. Mass., Pa. Host: *Ennomus subsignarius* (Hbn.).

*basalis* Wallaston. Transf. to *Trissolcus* Ashmead, p. 694.

*bifidus* Riley. Wis. Host: *Dasychira plagiata* (Wlkr.).

*californicus* Ashmead. N. Mex., Nev., Oreg.

*chrysopae* Ashmead. Host: *Lomamyia flavicornis* (Wlkr.).

*clisiocampae* Riley. Colo., Wash.

*coloradensis* Crawford. Idaho, Wash. Host: *Hemerocampa pseudotsugata* McD.

*cosmopeplae* Gahan. Transf. to *Trissolcus* Ashmead, p. 694.

*dimmocki* Ashmead. Ohio, Ga., Fla. Hosts: *Cosmopepla bimaculata* (Thom.), *Podisus maculiventris* (Say), *Thyanta custator* (F.).

*dolichocerus* (Ashmead). Okla. Host: *Emesaya brevipennis* (Say).

*graptae* Howard. Ill., Colo., Ariz. Hosts: *Lycaena thoe* Guerin, *Plebejus icarioides* Bdv.

*heliothidis* Ashmead. Fla.

*ichthyurae* Ashmead. Maine, Okla.

*perplexus* Girault. Hosts: *Euschistus variolarius* (Pal. de Beauv.), *E. trisigmus* (Say).

*spilosomatis* Ashmead. Ohio.

*utahensis* Ashmead. Transf. to *Trissolcus* Ashmead, p. 694.

Genus *TRISSOLCUS* Ashmead, p. 694

\**Asolcus* Nakagawa, 1900. Spec. Rep. Imp. Agr. Sta. Japan 6, p. 17. Syn. by Masner, 1964. Acta Soc. Ent. Čechosl. 61: 145.

Type: *Asolcus nigripedius* Nakagawa. By monotypy.

\**Aphanurus* Kieffer, 1912. In Andre, Spec. Hym. Eur. Alg., v. 11, pp. 10, 69.

Type: *Teleas semistriatus* Nees. By orig. desig.

\**Microphanurus* Kieffer, 1926. Das Tierreich, Lief. 48, pp. xv, 16, 91.

Proposed for *Aphanurus* Kieffer, preocc. Syn. of *Asolcus* Nakagawa, *teste* Watanabe, 1951. Shikoku Ent. Soc. Trans. 2: 21.

**basalis** (Wollaston), n. comb. Transf. from *Telenomus* subg. *Telenomus* Haliday, Sup. 1, p. 92 (*teste* L. Masner).

**brochymenae** (Ashmead). Ind., Tex. Host: *Acrosternum hilare* (Say).

**cosmopeplae** (Gahan), n. comb. Transf. from *Telenomus* subg. *Telenomus* Haliday, p. 692 (*teste* L. Masner).

**podisi** Ashmead. W. Va., Ohio, Ind. Host: *Banasa dimidiata* (Say).

**thyantae** Ashmead. Ga., Mo., Tex.

**utahensis** (Ashmead), n. comb. Transf. from *Telenomus* subg. *Telenomus* Haliday, p. 694 (*teste* L. Masner).

Genus *Hadrophanurus* Kieffer, p. 694

Transf. to Scelioninae as a syn. of *Gryon* Haliday (*teste* Masner, 1961. Acta Soc. Ent. Cechosl. 58: 158).

**pennsylvanicus** (Ashmead). Transf. to *Gryon* Haliday.

### Subfamily Baeinae of Catalog

Delete; include in Scelioninae. Place the contained genera at the beginning of the Scelioninae, p. 701, except *Tetrabaeus* Kieffer, which is transf. to Platygasteridae, p. 708. Transf. *Acoloides xanthogaster* (Ashmead) to \**Gryon* Haliday.

### Subfamily TELEASINAE

Genus *TRIMORUS* Foerster, pp. 697–701

(= *Trichasius* Provancher, Sup. 1, p. 92)

*Trichasius* Provancher, 1887. N. syn. (*teste* L. Masner).

*Paragryon* Kieffer, 1908. N. syn. (*teste* L. Masner).

Transf. here all spp. in Catalog under *Paragryon* Kieffer, p. 696, and in Sup. 1 under *Trichasius* Provancher, p. 92; all are n. combs. in *Trimorus* Foerster.

### Subfamily SCELIONINAE

Genus *CERATOBAEUS* Ashmead, p. 695

**binotatus** Ashmead. Md.

Genus *BAEUS* Haliday, p. 695

**zabriskiei** (Ashmead), n. comb. Transf. from *Acoloides* Howard, p. 696 (*teste* L. Masner).

Genus *Acoloides* Howard, pp. 695–696

Syn. of *Idris* Foerster, *infra*. Remove *Psilacolus* Kieffer from syn. under *Acoloides* and place as syn. of *Gryon* Haliday. Transf. to *Idris* Foerster all species listed under *Acoloides* in Catalog except *xanthogaster* (Ashmead), which is transf. to *Gryon* Haliday, and *zabriskiei* (Ashmead), which is transf. to *Baeus* Haliday, p. 695.

\*Genus *IDRIS* Foerster

(= *Acoloides* Howard, pp. 695–696)

*Idris* Foerster, 1856. Hym. Stud. v. 2, pp. 102, 105.

Type: *Idris flavicornis* Foerster. By monotypy.

*Acoloides* Howard, 1890. Insect Life 2: 269. Syn. by Masner, 1961. Acta Soc. Ent. Čechosl. 58: 163.

\**Megacolus* Priesner, 1951. Inst. Fouad I du Desert Bul. 1: 121.

Type: *Megacolus desertorum* Priesner. By monotypy and orig. desig.

\**Philoplanes* Muesebeck and Walkley, 1956. U. S. Natl. Mus. Proc. 105: 384. N. name for *Megacolus* Priesner, preocc.

Taxonomy: Masner, 1961, *loc. cit. supra*, pp. 163-166.

*saitidis* (Howard). Pa., Ariz. Host: *Phidippus opifex* (McCook).

*seminiger* (Ashmead). Nebr.

#### Genus THORON Haliday, p. 696

\**metallicus* Haliday. Europe; Mass.

*Thoron metallicus* Haliday, 1830. Ent. Mag. 1: 272. ♀.

*pallipes* Ashmead. Transf. to *Paridris* Kieffer, p. 704.

#### Genus SCELIO Latreille, pp. 702-703

Taxonomy: Nixon, 1958. Roy. Ent. Soc., London Trans. 110: 303-318 (revision of African species).

Biology: Greathead, 1963. Roy. Ent. Soc., London Trans. 114: 439-442.

*bisulcus* (Ashmead). Hosts: *Melanoplus* sp., *M. differentialis* (Thomas).

*Scelio striaticollis* Brues, 1906. N. syn. (*teste* C. F. W. Muesebeck on comparison of types).

Biology: Lanham and Evans, 1958. Pan-Pacific Ent. 34: 213-214.—Lanham and Evans, 1960. Brooklyn Ent. Soc. Bul. 55: 84-86 (photo).

*striaticollis* Brues. Syn. of *bisulcus* (Ashmead).

#### Genus OPISTHACANTHA Ashmead, p. 703

*Protrimorus* Kieffer, 1908. Transf. from Telenominae and made syn. of *Opisthacantha* by Masner, 1964. Acta Soc. Ent. Čechosl. 61: 140.

*americana* (Ashmead). Transf. from *Protrimorus* Kieffer, p. 690, by Masner, 1964. Acta Soc. Ent. Čechosl. 61: 141.

#### Genus PARIDRIS Kieffer, p. 704

*brevipennis* Fouts. Calif.

*pallipes* (Ashmead), n. comb. Transf. from *Thoron* Haliday, p. 696 (*teste* L. Masner).

#### \*Genus CALOTELEA Westwood

(= *Ceratoteleia* Kieffer, p. 705)

*Calotelea* Westwood, 1837. In Hope. Ent. Soc. London Trans. 2: 55.

Type: *Calotelea aurantea* Hope. By monotypy.

\**Caloteleia* Ashmead, 1893. U. S. Natl. Mus. Bul. 45: 209, 210, 212. Emendation.

*Ceratoteleia* Kieffer, 1908. Syn. by Masner, 1965. Brit. Mus. Nat. Hist. Bul., Ent. Sup. 1: 69.

*Prosanteris* Kieffer, 1908. Syn. with *Ceratoteleia* by Muesebeck, 1958, Sup. 1, p. 93.

\**Neuroteleia* Kieffer, 1910. Ent. Soc. France Bul. 1910: 293. Syn. by Masner, 1965, *loc. cit. supra*, p. 69.

Type: *Neuroteleia rufa* Kieffer. By orig. desig.

\**Lamproteleia* Kieffer, 1910, *loc. cit. supra*, p. 293. Syn. by Masner, 1965, *loc. cit. supra*, p. 69.

Type: *Lamproteleia fasciatipennis* Kieffer. By orig. desig.

Transf. here the species listed under *Ceratoteleia* Kieffer in the Catalog, p. 705, and in Sup. 1, p. 93.

**\*Genus GRYON Haliday**

*Gryon* Haliday, 1833. Ent. Mag. 1: 271.

Type: *Gryon misellus* Haliday. By monotypy.

\**Acolus* Foerster, 1856. Hym. Stud., v. 2, p. 100. Syn. by Masner, 1961. Acta Soc. Ent. Čechosl. 58: 158.

Type: *Acolus opacus* Thomson. Desig. by Ashmead, 1903.

*Hadronotus* Foerster, 1856. Syn. by Masner, 1961, *loc. cit. supra*, p. 158.

\**Plastogryon* Kieffer, 1908. Soc. Sci. de Bruxelles Ann. 32: 119, 131. Syn. by Maneval, 1940. Faune de la France, v. 7, p. 113.

Type: *Plastogryon foersteri* Kieffer. Desig. by Brues, 1908.

*Psilacolus* Kieffer, 1908. N. syn. (*teste* L. Masner).

\**Holacolus* Kieffer, 1912. In André, Spec. Hym. Eur. Alg., v. 11, pp. 89, 94, 106. Syn. by Masner, 1961, *loc. cit. supra*, p. 158.

Type: *Acolus opacus* Thomson. Desig. by Muesebeck and Walkley, 1956.

*Telenomoides* Dodd, 1913. Syn. of *Hadronotus* Foerster.

*Hadronotellus* Kieffer, 1917. Syn. of *Hadronotus* Foerster.

*Hadrophanurus* Kieffer, 1926. Syn. by Masner, 1961, *loc. cit. supra*, p. 158.

\**Heterogryon* Kieffer, 1926. Das Tierreich, Lief. 48, pp. xxvi, 271, 446, 448. Syn. by Masner, 1961, *loc. cit. supra*, p. 158.

Type: *Plastogryon sagax* Kieffer. Desig. by Muesebeck and Walkley, 1956.

*Syntelesia* Fouts, 1927. N. syn. (*teste* L. Masner).

Transf. to *Gryon* all species listed in the Catalog under *Hadrophanurus* Kieffer, p. 694, *Hadronotus* Foerster, pp. 704-705, and *Syntelesia* Fouts, p. 706, and mark all, except *pennsylvanicus* (Ashmead), n. combs. Insert *Gryon* Haliday in place of *Hadronotus* Foerster, pp. 704-705.

*xanthogaster* (Ashmead), n. comb. Transf. from *Acoloides* Howard, p. 696 (*teste* L. Masner).

**Genus Pegoteleia Kieffer, pp. 705-706**

Delete from Catalog; no North American species known. Transfer the species listed under *Pegoteleia* in the Catalog to \**Probaryconus* Kieffer, where all are n. combs. Chg. *striata* (Ashmead) to *striatus*.

**Genus Prosapegus Kieffer, p. 705**

Syn. of *Macroteleia* Westwood, *infra*.

*elongata* (Ashmead). Transf. to *Macroteleia* Westwood.

**\*Genus PROBARYCONUS Kieffer**

(= *Pegoteleia* of Catalog, pp. 705-706)

*Probaryconus* Kieffer, 1908. Soc. Sci. de Bruxelles Ann. 32: 118, 165, 168.

Type: *Baryconus* (*Probaryconus*) *spinosus* Kieffer. By monotypy.

\**Amblyconus* Kieffer, 1913. In André, Spec. Hym. Eur. Alg., v. 11 p. 221. Syn. by Masner, 1965. Brit. Mus. (Nat. Hist.) Bul., Ent. Sup. 1: 90.

All species listed in the Catalog under *Pegoteleia* Kieffer, p. 706, are transf. here as n. combs.; *striata* (Ashmead) becomes *striatus*.

**Genus MACROTELEIA Westwood, p. 706**

\**Baeoneura* Foerster, 1856. Hym. Stud., v. 2, pp. 100, 102. Syn. by Muesebeck and Walkley, 1956. U. S. Natl. Mus. Proc. 105: 335.

Type: *Baeoneura floridana* Ashmead. Desig. by Muesebeck and Walkley, 1956.

*Baeoneura* Ashmead, 1887. Ent. Amer. 3: 99. Error for *Baeoneura* Foerster.

*Prosapegus* Kieffer, 1908. Syn. by Masner, 1964. Acta Soc. Ent. Čechosl. 61: 137.

*Stictoteleia* Kieffer, 1926. Syn. by Masner, 1964, *loc. cit. supra*, p. 137.  
*elongata* (Ashmead), n. comb. Transf. with *Prosapegus* Kieffer, p. 705.  
*virginiensis* Ashmead. Transf. with *Stictoteleia* Kieffer, p. 706.

Genus *Stictoteleia* Kieffer, p. 706

Syn. of *Macroteleia* Westwood, *supra*.

*virginiensis* (Ashmead). Transf. to *Macroteleia* Westwood.

Genus *Synteleia* Fouts, p. 706

N. syn. of *Cryon* Haliday (*teste* L. Masner). The single species, *coracina* Fouts, is transf. to *Cryon*, and changed to *coracinus* (Fouts).

Genus *PSEUDANTERIS* Fouts, p. 706

Taxonomy: Masner, 1964. Acta Soc. Ent. Česosl. 61:141.

## Family PLATYGASTERIDAE

Taxonomy: Szabó, 1959. Mus. Nat. Hungarici Ann. Hist.-Nat. 51: 389-390.—Masner, 1964. Acta Soc. Ent. Česosl. 61: 146-162.

### Subfamily INOSTEMMINAE

Genus *Monocrita* Foerster, p. 707

Syn. of *Isostasius* Foerster, p. 708.

*carinata* Ashmead. Transf. to *Metaclisis* Foerster.

*nigripes* Ashmead. Transf. to *Platygaster* Latreille.

Genus *METACLISIS* Foerster, p. 707

*belonocnemae* Ashmead. Transf. to *Inostemma* Haliday, p. 708.

*carinata* (Ashmead), n. comb. Transf. from *Monocrita* Foerster, p. 707 (*teste* L. Masner).

*erythropus* Ashmead. Transf. to *Platygaster* Latreille, p. 710.

*floridana* (Ashmead), n. comb. Transf. from *Acerota* Foerster, p. 707 (*teste* L. Masner).

Genus *Acerota* Foerster, p. 707

Syn. of *Inostemma* Haliday; all included spp. are transf. to *Inostemma* except *floridana* Ashmead, which is transf. to *Metaclisis* Foerster.

Genus *ALLOTROPA* Foerster, pp. 707-708

*burrelli* Muesebeck. Established throughout range of host in U. S.

Biology: Clausen, 1956. U. S. Dept. Agr. Tech. Bul. 1139, pp. 74-75.

\**citri* Muesebeck. So. China; Calif. Host: *Planococcus citri* (Risso).

*Allotropa citri* Muesebeck, 1954. Brooklyn Ent. Soc. Bul. 49: 18. ♂, ♀.

Release and recovery in U.S.: Bartlett and Lloyd, 1958. Jour. Econ. Ent. 51: 92-93.

*utilis* Muesebeck. N. H., Vt.; Japan. Host: *Phenacoccus pergandei* Ckll.

Biology: Murakami, 1962. Kyushu Univ. Facul. Agr. Sci. Bul. 19: 390-402.

Genus *Triclavus* Brèthes, p. 708

Syn. of *Fidiobia* Ashmead, *infra*.

*drakei* Ogloblin. Transf. to *Fidiobia* Ashmead.

Genus *FIDIOBIA* Ashmead, p. 709

Transf. from subfam. *Platygasterinae* to subfam. *Inostemminae* and

place before *Inostemma* Haliday, p. 708 (*teste* Jansson, 1956. Ent. Tidskr. 77: 87-90.—Masner, 1956. Acta Faun. Ent. Mus. Natl. Pragae 30: 114).

*Triclavus* Brèthes, 1916. N. syn. (*teste* L. Masner).

*drakei* (Ogloblin), n. comb. Transf. with *Triclavus* Brèthes, p. 708.

Genus *INOSTEMMA* Haliday, p. 708

*Acerota* Foerster. N. syn. (*teste* Masner, 1964. Acta Soc. Ent. Česosl. 61: 146). All species listed in Catalog are transf. to *Inostemma* as n. combs. except *floridana* which is transf. to *Metaclisis* Foerster (*teste* L. Masner).

\**Brachinostemma* Kieffer, 1916. Zentbl. f. Bakt., Parasitenk. u. Infektionskrankheiten, Abt. 2, 46: 551. Syn. by Masner, 1964, *loc. cit. supra*, p. 146.

Type: *Brachinostemma mediterraneum* Kieffer. By monotypy and orig. desig.

\**Inocerota* Szelényi, 1939. Mus. Nat. Hungarici Ann. 32: 121. Syn. by Masner, 1964, *loc. cit. supra*, p. 146.

Type: *Inocerota discessus* Szelényi. By orig. desig.

*americanum* (Ashmead), n. comb. Transf. from *Acerota* Foerster, p. 707.

Taxonomy: Masner, 1964. Acta Soc. Ent. Česosl. 61: 147.

*belonocnemae* (Ashmead), n. comb. Transf. from *Metaclisis* Foerster, p. 707 (*teste* L. Masner).

*cecidomyiae* (Ashmead), n. comb. Transf. from *Acerota* Foerster, p. 707.

*leonardi* (Fouts), n. comb. Transf. from *Acerota* Foerster, p. 707.

Genus *ISOSTASIUS* Foerster, p. 708

*Monocrita* Foerster. Syn. by Masner, 1965. Brit. Mus. Nat. Hist. Bul., Ent. Sup. 1: 130.

Genus *TETRABAEUS* Kieffer, p. 695

Transf. from Scelionidae to Platygasteridae, subfam. Inostemminae, and place after *Isostasius* Foerster, p. 708.

\**Crabroborus* Muesebeck, 1963. Beitr. z. Ent. 13: 391. Syn. by Masner, 1964. Acta Soc. Ent. Česosl. 61: 148.

Type: *Crabroborus krombeini* Muesebeck. By monotypy and orig. desig.

*americanus* (Brues). Wis., Que., Md. Hosts: *Ectemnius* (*Hypocrabro*) *paucimaculatus* (Pack.), *Euphilis* (*Corynopus*) *rufigaster* (Pack.), *E. (C.) coarctata modesta* (Roh.).

\**Crabroborus krombeini* Muesebeck, 1963. Beitr. z. Ent. 13: 392. ♀, ♂. Syn. by Masner, 1964. Acta Soc. Ent. Česosl. 61: 149.

Biology: Krombein, 1964. Biol. Soc. Wash. Proc. 77: 104-108, fig. 11.

Subfamily PLATYGASTERINAE

Genus *Fidiobia* Ashmead, p. 709

Transf. to Inostemminae, p. 708.

Genus *ISOCYBUS* Foerster, p. 709

*canadensis* (Provancher). Ind.

\*Genus *METANOPEDIAS* Brues

*Metanopedias* Brues, 1910. Amer. Mus. Nat. Hist. Bul. 28: 79.

Type: *Metanopedias sicarius* Brues. By monotypy.

Insert in Platygasterinae before *Trichacis* Foerster, p. 709.

*rubicola* (Ashmead), n. comb. Transf. from *Trichacis* Foerster, p. 709, with its synonyms (*teste* L. Masner).

Genus *TRICHACIS* Foerster, pp. 709–710

*rubicola* Ashmead. Transf. to *Metanopiedias* Brues.

Genus *ERITRISOMERUS* Ashmead, p. 710

*noveboracensis* Brues. Transf. to *Platygaster* Latreille, p. 710.

Genus *PLATYGASTER* Latreille, pp. 710–715

\**Prosactogaster* Kieffer, 1914. In Andre, Spec. Hym. Eur. Alg., v. 11, pp. 352, 363. Syn. by Masner, 1965. Brit. Mus. Nat. Hist. Bul., Ent. Sup. 1: 135.

Type: *Platygaster lineatus* Kieffer. Desig. by Muesebeck and Walkley, 1956.

\**Misocyclops* Kieffer, 1914, loc. cit. supra, pp. 353, 362. Syn. by Masner, 1965, loc. cit. supra, p. 135.

Type: *Platygaster ornatus* Kieffer. By monotypy.

\**Parepimeces* Kieffer, 1926. Das Tierreich, Lief. 48, pp. 563, 760. Syn. by Masner, 1965, loc. cit. supra, p. 135.

Type: *Epimeces ensifer* Westwood. By substitution of *Parepimeces* for *Epimeces* Westwood, preocc.

*erythropus* (Ashmead), n. comb. Transf. from *Metaclisis* Foerster, p. 707 (teste L. Masner).

*hyalinipennis* (Ashmead). N. Y. Host: *Caryomyia tubicola* (O. S.) on hickory.

*nigripes* (Ashmead), n. comb. Transf. from *Monocrita* Ashmead, p. 707 (teste L. Masner).

*noveboracensis* (Brues). Transf. from *Eritrissomerus* Ashmead, p. 710 (teste L. Masner).

Genus *EUXESTONOTUS* Fouts, p. 715

Remove from syn. under *Xestonotidea* Gahan. A valid genus containing all the species placed in Catalog under *Xestonotidea*, except *andriciphila* (Ashmead) which is transf. to *Leptacis* Foerster, of which *Xestonotidea* is a syn.

Genus *Sactogaster* Foerster, p. 715

Syn. of *Synopeas* Foerster (= *Leptacis* Foerster of Catalog in part); included spp. transf. to *Synopeas*.

Genus *SYNOPEAS* Foerster, p. 716

Remove from syn. under *Leptacis* Foerster, p. 716, and place as valid genus before *Leptacis*.

*Ectadius* Foerster, 1856. Transf. here from syn. under *Leptacis* Foerster, p. 716. Syn. by Masner, 1964. Acta Soc. Ent. Cechosl. 61: 149.

*Polmecus* Foerster, 1856. Transf. here from syn. under *Leptacis* Foerster, p. 716. Unnecessarily proposed as n. name for *Ectadius* Foerster.

*Sactogaster* Foerster, 1856. N. syn. (teste L. Masner). All species listed in Catalog are transf. to *Synopeas* as n. combs.; where necessary ending is to be changed to neuter.

*Dolichotrypes* Crawford and Bradley, 1911. Transf. here from syn. under *Leptacis* Foerster, p. 716. Syn. by Masner, 1964. Acta Soc. Ent. Cechosl. 61: 149.

Taxonomy: Ghesquière, 1948. Soc. Ent. de Belg. Bul. et Ann. 84:44.—Masner, 1960. Rev. de Zool. et de Bot. Africaines 62: 3.—Masner, 1965. Brit. Mus. Nat. Hist. Bul., Ent. Sup. 1: 140.

*abdominator* (Fouts), n. comb. Transf. from *Leptacis* Foerster, p. 716 (teste L. Masner).

*aciculatum* (Fouts), n. comb. Transf. from *Leptacis* Foerster, p. 716 (teste L. Masner).



- angustulum** (Fouts), n. comb. Transf. from **Leptacis** Foerster, p. 716 (*teste* L. Masner).
- anomaliventre** (Ashmead), n. comb. Transf. from **Sactogaster** Foerster, p. 716 (*teste* L. Masner).
- ashmeadii** Dalla Torre. Transf. from **Leptacis** Foerster, p. 716 (*teste* L. Masner).
- auripes** (Ashmead), n. comb. Transf. from **Leptacis** Foerster, p. 716 (*teste* L. Masner).
- bradleyi** (Fouts), n. comb. Transf. from **Leptacis** Foerster, p. 716 (*teste* L. Masner).
- breviventre** (Ashmead), n. comb. Transf. from **Leptacis** Foerster, p. 716 (*teste* L. Masner).
- carinator** (Fouts), n. comb. Transf. from **Leptacis** Foerster, p. 716 (*teste* L. Masner).
- cynipsiphilum** (Ashmead), n. comb. Transf. from **Leptacis** Foerster, p. 716 (*teste* L. Masner).
- dubiosum** (Fouts), n. comb. Transf. from **Leptacis** Foerster, p. 717 (*teste* L. Masner).
- flavicorne** (Ashmead), n. comb. Transf. from **Leptacis** Foerster, p. 717 (*teste* L. Masner).
- floridanum** (Ashmead), n. comb. Transf. from **Leptacis** Foerster, p. 717 (*teste* L. Masner).
- \*foutsii** Masner, n. name. Replaces **longiventre** (Fouts). preocc., upon transf. from **Sactogaster** Foerster, p. 716.
- globatum** (Fouts), n. comb. Transf. from **Leptacis** Foerster, p. 717 (*teste* L. Masner).
- hopkinsi** (Crawford and Bradley), n. comb. N. C., Fla. Transf. from **Leptacis** Foerster, p. 717 (*teste* L. Masner).
- howardii** (Ashmead), n. comb. Transf. from **Sactogaster** Foerster, p. 71 (*teste* L. Masner).
- incertum** (Ashmead), n. comb. Transf. from **Leptacis** Foerster, p. 717 (*teste* L. Masner).
- longiventre** (Ashmead), n. comb. Transf. from **Leptacis** Foerster, p. 717 (*teste* L. Masner).
- maculipes** (Ashmead), n. comb. Transf. from **Leptacis** Foerster, p. 717 (*teste* L. Masner).
- mucronatum** (Fouts), n. comb. Transf. from **Sactogaster** Foerster, p. 716 (*teste* L. Masner).
- nigripes** Ashmead. Transf. from **Leptacis** Foerster, p. 717 (*teste* L. Masner).
- pennsylvanicum** (Fouts), n. comb. Transf. from **Leptacis** Foerster, p. 717 (*teste* L. Masner).
- pubescens** (Ashmead), n. comb. Transf. from **Leptacis** Foerster, p. 717 (*teste* L. Masner).
- punctatum** (Ashmead), n. comb. Transf. from **Leptacis** Foerster, p. 717 (*teste* L. Masner).
- rufiscapus** Ashmead. Transf. from **Leptacis** Foerster, p. 717 (*teste* L. Masner).
- rugosiceps** (Kieffer), n. comb. Transf. from **Leptacis** Foerster, p. 717 (*teste* L. Masner).
- striatifrons** (Ashmead), n. comb. Transf. from **Leptacis** Foerster, p. 718 (*teste* L. Masner).

**texanum** (Fouts), n. comb. Transf. from **Leptacis** Foerster, p. 718 (*teste* L. Masner).

**varipes** (Harrington), n. comb. Transf. from **Sactogaster** Foerster, p. 716 (*teste* L. Masner).

**Genus LEPTACIS** Foerster, pp. 716–718

**Ectadius** Foerster, 1856. Remove from syn.; place as syn. of **Synopeas** Forester (*teste* Masner, 1964, *Acta Soc. Ent. Cechosl.* 61: 149).

**Synopeas** Foerster, 1856. Remove from syn.; a valid genus (*teste* Masner, 1960, *Rev. de Zool. et de Bot. Africaines* 62:3).

**Anopedias** Foerster, 1856. Remove from syn.; a valid genus without known Nearctic species (*teste* L. Masner).

**Xestonotus** Foerster, 1856. Syn. by Masner, 1964, *loc. cit. supra*, p. 151.

**Polymecus** Foerster, 1856. Remove from syn.; syn. of **Anopedias** (unnecessarily proposed replacement name).

**Dolichotrypes** Crawford and Bradley, 1911. Remove from syn.; place as syn. of **Synopeas** Foerster (*teste* L. Masner, 1964, *loc. cit. supra*, p. 149.)

**Xestonotidea** Gahan, 1919. Syn. by Masner, 1964, *loc. cit. supra*, p. 6, 151.

**Axestonotus** Kieffer, 1926. Syn. by Masner, 1964, *loc. cit. supra*, p. 151.

\***Proleptacis** Kieffer, 1926. *Das Tierreich*, Lief. 48, pp. xxi, 562, 632. Syn. by Masner, 1960, *loc. cit. supra*, p. 3.

Type: **Leptacis foersteri** Kieffer. By orig. desig.

\***Anacoryphe** Debauche, 1947. *Soc. Ent. de Belg. Bul. et Ann.* 83: 247. Treated as subgenus by Masner, 1960, *loc. cit. supra*, p. 3.

Type: **Anacoryphe orchymonti** Debauche. By monotypy and orig. desig.

\***Mandraka** Risbec, 1953. *Inst. Sci. de Madagascar Mem.* 3: 343. Treated as subgenus by Masner, 1960, *loc. cit. supra*, p. 3.

Type: **Mandraka pauliani** Risbec. By monotypy.

Taxonomy: Masner, 1960, *loc. cit. supra*, pp. 1–34 (revision of the African species).

**abdominator** Fouts. Transf. to **Synopeas** Foerster.

**aciculata** Fouts. Transf. to **Synopeas** Foerster.

**andriciphila** (Ashmead). Transf. from **Xestonotidea** Gahan, p. 716 (*teste* Ghesquière, 1948, *Soc. Ent. de Belg. Bul. et Ann.* 84: 42).

**angustula** Fouts. Transf. to **Synopeas** Foerster.

**ashmeadii** (Dalla Torre). Transf. to **Synopeas** Foerster.

**auripes** (Ashmead). Transf. to **Synopeas** Foerster.

**bradleyi** Fouts. Transf. to **Synopeas** Foerster.

**breviventris** Ashmead. Transf. to **Synopeas** Foerster.

**carinator** Fouts. Transf. to **Synopeas** Foerster.

**cynipsiphila** Ashmead. Transf. to **Synopeas** Foerster.

**dubiosa** Fouts. Transf. to **Synopeas** Foerster.

**flavicornis** Ashmead. Transf. to **Synopeas** Foerster.

**floridana** Ashmead. Transf. to **Synopeas** Foerster.

**globata** Fouts. Transf. to **Synopeas** Foerster.

**hopkinsi** (Crawford and Bradley). Transf. to **Synopeas** Foerster.

**incerta** (Ashmead). Transf. to **Synopeas** Foerster.

**longiventris** Ashmead. Transf. to **Synopeas** Foerster.

**maculipes** (Ashmead). Transf. to **Synopeas** Foerster.

**nigripes** (Ashmead). Transf. to **Synopeas** Foerster.

**pennsylvanica** Fouts. Transf. to **Synopeas** Foerster.

- pubescens* Ashmead. Transf. to *Synopeas* Foerster.  
*punctata* Ashmead. Transf. to *Synopeas* Foerster.  
*rufiscapus* (Ashmead). Transf. to *Synopeas* Foerster.  
*rugosiceps* Kieffer. Transf. to *Synopeas* Foerster.  
*striatifrons* Ashmead. Transf. to *Synopeas* Foerster.  
*texana* Fouts. Transf. to *Synopeas* Foerster.

## Superfamily BETHYLOIDEA

### Family CHRYSIDIDAE

Biology: Krombein, 1958. Amer. Ent. Soc. Trans. 84: 141-168, 2 pls. (spp. of coastal N. C.).

Genus *OMALUS* Panzer, pp. 718-719

\**Philoctetes* Abeille de Perrin, 1870. Soc. Linn. Lyon Ann. 26, sup.: 26.

Type: *Holopyga (Philoctetes) cicatrix* Abeille de Perrin. Design. by Ashmead, 1902.

*Diplorrhous* Aaron, 1885. Amer. Ent. Soc. Trans. 12: 216.

Type: *Diplorrhous plicatus* Aaron. By monotypy.

\**Ellampus* subg. *Dictenulus* Semenov, 1932. Soc. Ent. Ross. Hor. 42: 6.

Type: *Ellampus (Dictenulus) specularis* Semenov. Orig. design.

Revision: Bohart and Campos, 1960. Ent. Soc. Amer. Ann. 53: 235-250, 30 figs.

\**aeneus* (Fabricius). Canada and U. S. south to Ga., N. Mex. and Ariz., chiefly in Canadian and Transition Zones, occasionally Upper Austral; Europe. Hosts: *Pemphredon* sp. and *Passaloecus* sp. in U. S.; *Stigmus*, *Passaloecus* and *Pemphredon* in Europe. (*Omalus*)

*Chrysis aeneus* Fabricius, 1787. Mant. Ins. 1: 284.

*Omalus laeviventris* Cresson (syn. by Bohart and Campos, 1960, *loc. cit. supra*, p. 238).

*Omalus diversus* Aaron (syn. by Bohart and Campos, 1960, *loc. cit. supra*, p. 238).

\**auratus* (Linnaeus). N. Y. south to S. C., Ohio, Ind. Hosts: *Pemphredon (Cemonus) l. lethifer* (Shuck.) and *Passaloecus turionum* Dahlb. in U. S.; in Europe *Pemphredon (P.) lugubris* F., *Pemphredon (Cemonus) unicolor* F., *Trypoxylon figulum* F. and *T. attenuatum* Sm.—the latter two records are very dubious. (*Pseudomalus*)

*Spheg aurata* Linnaeus, 1758. Syst. Nat., ed. 10, p. 572.

*Omalus sinuosus* (Say) (syn. by Bohart and Campos, 1960, *loc. cit. supra*, p. 241. Note that *O. janus* is removed from syn. and revaluated with *O. corruscans* (Norton) and *O. purpuratus* (Provancher) as syns.).

Taxonomy: Krombein, 1959. Brooklyn Ent. Soc. Bul. 54: 95-96.

Biology: Thomas, 1962. Ent. News 73: 217-218.

\**butleri* Bohart and Campos. Ariz., N. Mex., Utah, Colo., B. C., Ind., N. Y. (*Omalus*)

*Omalus (Omalus) butleri* Bohart and Campos, 1960. Ent. Soc. Amer. Ann. 53: 240, figs. 6, 17. ♀, ♂.

*cressoni* (Aaron). Oreg., Calif., Ariz., Colo., Utah, Mont., Nebr. Hosts: *Xylocelia occidentalis* (Fox), *Pemphredon giffardi* (Roh.), *Stigmus inordinatus* Fox. (*Diplorrhous*)

Biology: Powell, 1964. Wasmann Jour. Biol. 21: 172-173.

*diversus* Aaron. Syn. of *aeneus* (Fabricius). In orig. citation for *diversus*, change ♀ to ♂.

- \***downeyi** Bohart and Campos. Oreg., Calif., Nev., chiefly in Canadian Zone. (*Diplorrhos*)  
*Omalus (Diplorrhos) downeyi* Bohart and Campos, 1960. Ent. Soc. Amer. Ann. 53: 246, figs. 5, 8. ♂, ♀.
- glomeratus** (du Buysson). Calif. to Wash., east to Idaho, Colo., N. Mex. Host: *Stigmus inordinatus* Fox. (*Omalus*)
- \***granti** Bohart and Campos. Calif., Ariz., N. Mex., Nev., Colo. (*Diplorrhos*)  
*Omalus (Diplorrhos) granti* Bohart and Campos, 1960. Ent. Soc. Amer. Ann. 53: 247, fig. 19. ♂, ♀.
- intermedius** (Aaron). Mont., Md. Host: *Xylocelia virginiana* Roh. Transf. from *Elampus* Spinola. (*Diplorrhos*)  
 Biology: Krombein, 1963. Ent. Soc. Wash. Proc. 65: 264.
- iridescent** (Norton). Throughout Canada and U. S., in Canadian, Transition and Austral Zones. Hosts: *Stigmus inordinatus* Fox, *S. americanus* Pack., *Diodontus trisculcus* Fox. (*Omalus*)
- janus** (Haldeman). Canada and U. S. south to Calif., Ariz., N. C., chiefly in Canadian and Transition Zones. Host: *Pemphredon (P.) concolor* Say, *P. (P.) errans* Roh., *P. (Cemonus) giffardi* (Roh.). (*Pseudomalus*)  
*Omalus sinuosus* (Say) of Catalog, in part. *O. janus* not a syn. (teste Bohart and Campos, 1960, loc. cit. supra, p. 242).  
*Elampus coruscans* Norton (syn. by Bohart and Campos, 1960, loc. cit. supra, p. 242). Note that *coruscans* was misspelled in orig. cit. under *sinuosus* in Catalog.  
*Elampus purpuratus* Provancher (syn. by Bohart and Campos, 1960, loc. cit. supra, p. 242).  
*Omalus semicircularis* Aaron (syn. by Bohart and Campos, 1960, loc. cit. supra, p. 242).
- \***krombeini** Bohart and Campos. Ariz., southern Calif. (*Diplorrhos*)  
*Omalus (Diplorrhos) krombeini* Bohart and Campos, 1960. Ent. Soc. Amer. Ann. 53: 247, figs. 3, 13. ♂, ♀.
- laeviventris** Cresson. Syn. of *aeneus* (Fabricius).
- \***macswaini** Bohart and Campos. Alaska, Canada and U. S. south to Calif., Ariz. and Ga. Hosts: *Stigmus americanus* Pack., *Pemphredon (Cemonus) l. lethifer* (Shuck.), ? *P. (C.) harbecki* Roh. (*Pseudomalus*)  
*Omalus (Pseudomalus) macswaini* Bohart and Campos, 1960. Ent. Soc. Amer. Ann. 53: 244, fig. 22. ♂, ♀.  
 Biology: Krombein, 1960. Ent. News 71: 32-33.
- plicatus** (Aaron). Alaska, Canada, western and northern U. S. south to Calif., N. Mex., Minn., Mich., N. Y. (*Diplorrhos*)
- semicircularis** Aaron. Syn. of *janus* (Haldeman).
- seminudus** (Aaron). Alaska, B. C. south to Calif., Idaho, Ont. Transf. from *Elampus* Spinola. (*Diplorrhos*)
- sinuosum** (Say). Syn. of *auratus* (Linnaeus). N. B.: *O. janus* Haldeman is removed from syn. and revalidated, with *O. coruscans* Norton) and *O. purpuratus* (Provancher) as synonyms. (*Pseudomalus*)
- speculum** (Say). Wash., Oreg., Calif., Colo. (*Diplorrhos*)
- \***telfordi** Bohart and Campos. Tex. to southern Calif., Nev. (*Diplorrhos*)  
*Omalus (Diplorrhos) telfordi* Bohart and Campos, 1960. Ent. Soc. Amer. Ann. 53: 249, figs. 14, 27. ♂, ♀.
- \***trilobatus** Bohart and Campos. B. C. and Idaho south to Calif., Ariz. and Colo., in Canadian, Transition and Upper Sonoran Zones. Host: *Pemphredon (Cemonus) giffardi* (Roh.). (*Pseudomalus*)  
*Omalus (Pseudomalus) trilobatus* Bohart and Campos, 1960. Ent. Soc. Amer. Ann. 53: 245, figs. 4, 15, 25, 28. ♂, ♀.

**variatus** (Aaron). Western N. Amer. in Canadian, Transition and Upper Sonoran Zones. Host: *Stigmus inordinatus* Fox. (*Diplorrhos*)

Genus **ELAMPUS** Spinola, p. 719

**intermedius** (Aaron). Transf. to **Omalus**, p. 718.

**seminudus** (Aaron). Transf. to **Omalus**, p. 718.

Genus **Diplorrhos** Aaron, p. 719

Transferred with component species to **Omalus** as a subgenus (*teste* Bohart and Campos, 1960, *loc. cit. supra*, p. 236).

Genus **HEDYCHRIDIMUM** Abeille de Perrin, p. 720

**amabile** Cockerell. Ariz., Nev.

**fletcheri** Bodenstein. Ala., B. C.

**polygoni** Rohwer. Transf. to **Hedychrum** Latreille, p. 720.

Genus **HEDYCHRUM** Latreille, pp. 720-721

**continuum** Aaron. Fla.

**polygoni** (Rohwer). Transferred from **Hedychridium** Abeille de Perrin, p. 720 (*teste* K. V. Krombein who examined type).

**violaceum** Brullé. Host: ? *Cerceris halone* Bks. In citation of *wiltii* Cresson, change ♀ to ♂.

Genus **CHRYSTURA** Dahlbom

(= *Chrysis* subg. *Chrystura* Dahlbom of Catalog, p. 721)

Raised to generic rank (Krombein, 1963. Ent. News 74: 149).

**doriae** Gribodo. Hosts: *Trypoxylon* (T.) *bidentatum* Fox, T. (T.) *sculleni* Sandh. Kans., Tex.; Mexico.

\***kyrae** Krombein. Md., Va., Mo. (?), Ind. Host: *Osmia* (O.) *l. lignaria* Say.

**Chrystura kyrae** Krombein, 1963. Ent. News 74: 150. ♂, ♀.

Biology: Krombein, 1963, *loc. cit. supra*, p. 152.

**pacifica** (Say). Delete host record.

**tota** Aaron. B. C.

**CHRYSTIS** subgenus **CHRYSTOGONA** Foerster, pp. 721-722

**densa** Cresson. Delete *Pseudodynerus quadrisectus* (Say) as a host and add *Pseudomasaris vespoides* (Cr.), *P. zonalis* (Cr.) and *P. edwardsii* (Cr.).

Biology: Hicks, 1927. Canad. Ent. 59: 78.—Hicks, 1929. Canad. Ent. 61: 122.

**perpulchra** Cresson. Host: *Sphex aberti* (Hald.).

Biology: Hicks, 1932. Canad. Ent. 64: 145-151.

**verticalis** Patton. Host: *Trypoxylon backi* Sandh.

Biology: Thomas, 1962. Amer. Midland Nat. 67: 365-366.—Thomas, 1963. Mich. Acad. Sci., Arts, Letters, Papers 48: 127-130.

**CHRYSTIS** subgenus **DICHRYSTIS** Lichtenstein, p. 722

**annulipes** (Mocsáry). Syn. of **bigeloviae** Cockerell.

**bigeloviae** Cockerell. Add ♂ after orig. descr.

**mesillae** Cockerell. Tex., Okla.; Mexico (Zacatecas). Add ♀ after orig.

**Chrystis (Dichrystis) annulipes** (Mocsáry) (listed in Sup. 1), n. syn., based on type examination by K. V. Krombein. descr.

## CHRYSID subgenus CERATOCHRYSID Cooper, Sup. 1, p. 95

- enhuycki** Cooper. Host: *Leptochilus republicanus zendaloides* (Robt.).  
Biology: Krombein, 1959. Ent. News 70: 17-23.

## CHRYSID subgenus TRICHRYSID Lichtenstein, p. 722

- mucronata** Brullé. Host: *Trypoxylon (Trypargilum) t. tridentatum* Pack.  
Biology: Parker, 1962. Pan-Pacific Ent. 38: 140.
- parvula** Fabricius. Add Preocc. after citation for *virens* Cresson.  
Biology: Krombein, 1958. Amer. Ent. Soc. Trans. 84: 144.

## CHRYSID subgenus CHRYSID Linnaeus, pp. 722-725

Taxonomy: Bohart, 1962. Acta Hym. 1: 361-375, 25 figs. (sexdentate forms).

**aaroni** Mocsáry.

*Chrysis (Pyria) nana* Mocsáry (syn. by Bohart, 1962. Acta Hym. 1: 375).  
Taxonomy: Krombein, 1958. Amer. Ent. Soc. Trans. 84: 146.

**alabamensis** Mocsáry. Transfer to *\*Neochrysis* Linsenmaier as a syn. of *pan-amensis* (Cameron).**\*aridula** Bohart. Ariz., southern Calif.

*Chrysis aridula* Bohart, 1962. Acta Hym. 1: 364, figs. 1, 5, 17. ♂, ♀.

**\*arizonica** Bohart. Ariz., Tex. Host: *Stenodynerus (Parancistrocerus) toltectus* (Sauss.).

*Chrysis arizonica* Bohart, 1962. Acta Hym. 1: 366, figs. 2, 10, 18, 19. ♂, ♀.

**\*astralia** Bohart. Calif., Nev., Utah, Ariz., N. Mex.; Mexico (Baja California, Zacatecas).

*Chrysis astralia* Bohart, 1964. Biol. Soc. Wash. Proc. 77: 233, figs. 8, 13. ♂, ♀.

**\*bequaerti** Bohart. D. C., Ga., Ark., Mo., Ind., S. Dak. to Tex., N. Mex.

*Chrysis bequaerti* Bohart, 1962. Acta Hym. 1: 366, figs. 7, 9, 20, 21, 25. ♂, ♀.

**\*cembricola** Krombein. Pa., Md., D. C., Va., W. Va., N. C. Host: *Symmorphus canadensis* (Sauss.).

*Chrysis (Chrysis) cembricola* Krombein, 1958. Ent. Soc. Wash. Proc. 60: 53, fig. 1. ♀, ♂.

Biology: Krombein, 1958, loc. cit. supra, pp. 57-58.

**clara** Cresson. S. Dak., Colo., Wash. Transf. from *Chrysis* subg. *Pyria* Lepeletier & Serville, p. 725.

Taxonomy: Bohart, 1962. Acta Hym. 1: 367.

**\*clypeata** Mocsáry. Syn. of *lauta* Cresson.**coerulans** Fabricius. Hosts: *Ancistrocerus spilogaster* Cam., *A. tigris cytainus* (Cam.), *A. tuberculocephalus sutterianus* (Sauss.), *Euodynerus leucomelas* (Sauss.), *E. f. foraminatus* (Sauss.), *E. f. scutellaris* (Sauss.), *Stenodynerus acarophorus* Boh.

Biology: Parker, 1962. Pan-Pacific Ent. 38: 140.—Medler, 1964. Ent. News 75: 26-27.—Medler, 1964. Ent. Soc. Wash. Proc. 66: 209-215.

**cognata** Gribodo. Syn. of *intricata* Brullé.**\*coloradica** Bohart. Calif., Nev., Idaho. Host: *Anthidium collectum* Huard.

*Chrysis coloradica* Bohart, 1964. Biol. Soc. Wash. Proc. 77: 224. N. name for *pulcherrima* Cresson, preocc., questionably placed in syn. of *lauta* Cresson in Catalog.

**\*crotema** Bohart. N. Mex., Ariz.; Mexico (Zacatecas).

*Chrysis crotema* Bohart, 1964. Biol. Soc. Wash. Proc. 77: 228, figs. 5, 18. 19. ♂, ♀.

**decepta** Rohwer. Syn. of *pattoni* Aaron.

**derivata** du Buysson. Que., N. H., Mass., N. J., Pa., Md., N. C., Ill., Minn., Mo. Hosts: *Ancistrocerus catskill halophilus* Vier., *Euodynerus foraminatus scutellaris* (Sauss.).

Taxonomy: Krombein, 1958, *loc. cit. supra*, p. 160, fig. 7.

**dorsalis** Aaron. Delete Fla. from distribution. Host: *Photopsis* sp.

Taxonomy: Krombein, 1958, *loc. cit. supra*, p. 146, fig. 5.

**equidens** Viereck. N. C., Tex., Kans., Nebr.

Taxonomy: Krombein, 1958, *loc. cit. supra*, pp. 145-146, fig. 6.

**fabricii** Mocsáry. Delete from North American fauna (*teste* Bohart, 1962. *Acta Hym.* 1: 375).

**falsifica** Buysson. Syn. of *lauta* Cresson.

**fuscipennis** Brullé. Calif. (Sacramento and Stanislaus Counties). Host: *Scepliphron caementarium* (Dru.).

Biology: Stage, 1960. *Pan-Pacific Ent.* 36: 191-195, 1 pl.

**inaequidens** Dahlbom. Over most of U. S., N. Y. to Wash. and south into Mexico (Chihuahua). Hosts: *Euodynerus megaera* (Lep.), *E. foraminatus scutellaris* (Sauss.) and *E. foraminatus apopkensis* (Robt.). Transf. from *Chrysis* subg. *Pyria* Lepeletier & Serville, p. 725.

*Chrysis* (*Pyria*) **texana** Gribodo (syn. by Bohart, 1962. *Acta Hym.* 1: 368, fig. 14).

Biology: Krombein, 1958, *loc. cit. supra*, pp. 161-163 (recorded as *fabricii* Mocs.).—Moore and Parker, 1962. *Pan-Pacific Ent.* 38: 14.

**inflata** Aaron. Host: *Ancistrocerus lineativentris* Cam., *A. tuberculiceps sutterianus* (Sauss.).

**intricata** Brullé. Tex. (Brownsville); Mexico south to French Guiana. Transf. from *Chrysis* subg. *Pyria* Lepeletier & Serville, p. 725.

\**Chrysis smidti* Dahlbom, 1845. *Hym. Europaea* 2: 317. ♀.

*Chrysis* (*Pyria*) **cognata** Gribodo (syn. by Bohart, 1962. *Acta Hym.* 1: 368, fig. 16).

\**Chrysis proxima* Cameron, 1888. *Biol. Cent-Amer.*, *Hym.*, v. 1, p. 465. ♀.

\**Chrysis schulthessi* Mocsáry, 1889. *Monog. Chrysid.*, p. 572. ♂.

\**Chrysis aenescens* Mocsáry, 1889. *Monog. Chrysid.*, p. 577. ♀.

\**Chrysis aperta* du Buysson, 1897. *Ann. Soc. Ent. France* 66: 559. ♂.

**kahli** Viereck. Syn. of *propria* Aaron.

**laminifera** Bischoff. Ark.

Taxonomy: Krombein, 1958, *loc. cit. supra*, p. 143, fig. 3.

**lauta** Cresson. N. C., Ga., Miss., Tex., Kans., Nebr., Colo., N. Mex., Ariz.; Mexico (Morelos, Jalisco). Transfer *pulcherrima* Cresson to syn. of \**coloradica* Bohart. Host: *Anthidium porterae* Ckll.

*Chrysis* (*Chrysis*) **falsifica** Buysson (syn. by Bohart, 1964. *Biol. Soc. Wash. Proc.* 77: 224).

\**Chrysis (Tetrachrysis) clypeata* Mocsáry, 1889. *Monog. Chrysid.*, p. 393. ♂. (Syn. by Bohart, 1964, *loc. cit. supra*, p. 224.)

Biology: Custer, 1928. *Ent. News* 39: 123-134.

**montana** Aaron.

Taxonomy: Krombein, 1958, *loc. cit. supra*, p. 145.

**nana** Mocsáry. Syn. of *aaroni* Mocsáry. Transf. from *Chrysis* subg. *Pyria* Lepeletier & Serville, p. 725.

**nitidula** Fabricius. Host: *Ancistrocerus c. catskill* (Sauss.), *Euodynerus f. foraminatus* (Sauss.).

Biology: Medler, 1964. *Ent. Soc. Wash. Proc.* 66: 209-215.

\**oraria* Bohart. Ariz., Tex.

*Chrysis oraria* Bohart, 1962. *Acta Hym.* 1: 370. ♂, ♀.

**pattonella** Viereck. Syn. of *propria* Aaron.

**pattoni** Aaron. Host: *Ancistrocerus spilogaster* Cam.

*Chrysis (Chrysis) decepta* Rohwer (syn. by Krombein, 1957. Ent. News 68: 191).

**pellucidula** Aaron. N. Y., Pa., Calif. Host: *Trypoxylon t. tridentatum* Pack.

Biology: Hicks, 1934. Univ. Colo. Studies 21: 267.

\***praestans** du Buysson. Ky., Colo. to Tex., west to Wash. and Calif.; West Indies (Grenada).

*Chrysis praestans* du Buysson, 1898. Rev. Ent. Caen 17: 144. ♀.

Taxonomy: Bohart, 1962. Acta Hym. 1: 370, fig. 8.

\***prolata** Bohart. Kans., Wis.

*Chrysis prolata* Bohart, 1964. Biol. Soc. Wash. Proc. 77: 229. ♀.

**propria** Aaron.

*Chrysis (Chrysis) kahli* Viereck (syn. by Krombein, 1957, loc. cit. supra, p. 191).

*Chrysis (Chrysis) pattonella* Viereck (syn. by Krombein, 1957, loc. cit. supra, p. 191).

**provancheri** Schulz. S. Dak., B. C.

\***rivalis** Bohart. Calif., Oreg., Idaho, Wyo., Utah, Colo., Nev.

*Chrysis rivalis* Bohart, 1964. Biol. Soc. Wash. Proc. 77: 229, figs. 4, 22, 23. ♂, ♀.

**serrata** Taylor. Wash., Calif., Nev., N. Mex., Utah, Mich. Transf. from

*Chrysis* subg. *Pyria* Lepeletier & Serville, p. 725.

Taxonomy: Bohart, 1962. Acta Hym. 1: 371, fig. 12.

**smaragdula** Fabricius. Ariz. Host: *Monobia quadridens* (L.). Transf. from

*Chrysis* subg. *Pyria* Lepeletier & Serville, p. 725.

Biology: Krombein, 1958, loc. cit. supra, p. 163.

Taxonomy: Bohart, 1962. Acta Hym. 1: 371, fig. 13.

\***stenodyneri** Krombein. N. Y. south to Fla., Ind., Mo., Kans. Hosts: *Stenodynerus ammonia histrionalis* (Robt.), *S. krombeini* Boh., *S. lineatifrons* Boh.

*Chrysis (Chrysis) stenodyneri* Krombein, 1958. Amer. Ent. Soc. Trans. 84: 151, figs. 1, 2, 8. ♀, ♂.

Biology: Krombein, 1958, loc. cit. supra, pp. 155-160.

\***tensa** Bohart. Calif., Ariz., N. Mex., Tex., Utah; Mexico (Sonora, Chihuahua).

*Chrysis tensa* Bohart, 1964. Biol. Soc. Wash. Proc. 77: 230, figs. 2, 14, 15. ♂, ♀.

**tenuicornis** Taylor. Oreg., Calif., N. Mex.; Mexico (Baja California).

Taxonomy: Bohart, 1962. Acta Hym. 1: 373, figs. 3, 15.

**texana** Gribodo. Syn. of *inaequidens* Dahlbom.

\***tularensis** Bohart. Calif. (Tulare Co.).

*Chrysis tularensis* Bohart, 1962. Acta Hym. 1: 373, figs. 4, 6. ♂, ♀.

\***vagabunda** Bohart. Calif., Oreg., Wash., Nev., Utah.

*Chrysis vagabunda* Bohart, 1964. Biol. Soc. Wash. Proc. 77: 225, figs. 24, 25. ♂, ♀.

\***venustella** Bohart. Calif., Nev., Wash.

*Chrysis venustella* Bohart, 1964. Biol. Soc. Wash. Proc. 77: 235, figs. 9, 12. ♂, ♀.

\***vibex** Bohart. Calif., Ariz., N. Mex., Tex.; Mexico (Chihuahua, Nuevo Leon, Jalisco).

*Chrysis vibex* Bohart, 1964. Biol. Soc. Wash. Proc. 77: 231, figs. 1, 7, 11, 16. ♂, ♀.

\***wasbaueri** Bohart. Generally distributed over U.S., Mass. to Wash., south to Mexico (Chihuahua, Nueva Leon).

*Chrysis wasbaueri* Bohart, 1962. Acta Hym. 1: 372, figs. 11, 22, 23, 24. ♂, ♀.



**Xerophila** Bohart. Calif.

*Chrysis xerophila* Bohart, 1964. Biol. Soc. Wash. Proc. 77: 226, figs. 3, 20, 21. ♂, ♀.

*Chrysis* subgenus *Pyria* Lepeletier and Serville, p. 725

Delete this heading and transfer component species to **Chrysis** subg. **Chrysis** Linnaeus, pp. 722-725 (*teste* Bohart, 1962. Acta Hym. 1: 362).

\*Genus **NEOCHRYISIS** Linsenmaier

*Pleurocera* subg. *Neochrysis* Linsenmaier, 1959. Schweiz. Ent. Ges. Mitt. 32: 74.

Type: *Chrysis punctatissima* Spinola. Orig. desig.

Place after **Chrysis** subg. **Chrysis** Linnaeus, p. 725. Raised to generic rank (*teste* Bohart and Menke, 1963. Univ. Calif. Pubs. Ent. 30: 108).

\**panamensis* (Cameron). Md.; Panama.

*Chrysis panamensis* Cameron, 1888. Biol. Cent.-Amer., Hym. 1, p. 464, pl. 20, fig. 8.

*Chrysis (Chrysis) alabamensis* Mocsáry (transf. from **Chrysis** and syn. by Bohart and Menke, 1963, *loc. cit. supra*, p. 108).

Biology and Taxonomy: Krombein, 1958, *loc. cit. supra*, pp. 147-149, fig. 4.

Genus **PARNOPE** Latreille, pp. 725-726

Revision: Telford, 1964. Univ. Calif. Pubs. Ent. 36: 1-42, 5 pls., 1 text fig.

*arizonensis* Viereck. Syn. of *concinus* Viereck.

\**borregoensis* Telford. Southern Calif.

*Parnopes borregoensis* Telford, 1964. Univ. Calif. Pubs. Ent. 36: 9, pl. 1, fig. 2. ♂, ♀.

\**boutheryi* Brèthes. Syn. of *edwardsii* (Cresson).

*chrysoprasinus* Smith. N. Y. south to Fla., west to Wis. and Tex.

*concinus* Viereck. Calif. to western Tex., Nev.; Mexico (Baja California, Jalisco).

*Parnopes arizonensis* Viereck (syn. by Telford, 1964, *loc. cit. supra*, p. 11).

\**Parnopes digueti* du Buysson, 1904. Rev. d'Ent. Caen 23: 274. ♂. (Syn. by Telford, 1964, *loc. cit. supra*, p. 11.)

*diadema* Viereck. Syn. of *fulvicornis fulvicornis* Cameron.

\**digueti* du Buysson. Syn. of *concinus* Viereck.

*edwardsii* (Cresson). Change *edwardsi* in specific heading in Catalog to *edwardsii*. Alaska to California, east to the Rocky Mts.; Mexico (Baja California). Host: *Steniolia obliqua* (Cr.).

\**Parnopes boutheryi* Brèthes, 1902. Mus. Nac. Buenos Aires An. 8 (3): 287. ♀, ♂. (Syn. by Telford, 1964, *loc. cit. supra*, p. 6.)

*Parnopes hageni* Viereck (syn. by Telford, 1964, *loc. cit. supra*, p. 6).

*Parnopes henshawi* Viereck (syn. by Telford, 1964, *loc. cit. supra*, p. 6).

Biology: Evans and Gillaspay, 1964. Amer. Midland Nat. 72: 277, fig. 14.

*excurvatus* Viereck. Calif., Nev., Ariz. In orig. citation change ♀ to "♀" = ♂.

*festivus* Cockerell. Ariz. to western Tex.; Mexico (Chihuahua).

\**fulvicornis atlanticus* Krombein. Md., Va., N. C., ? Fla. Host: ? *Microbembex monodonta* (Say).

*Parnopes westcottii atlanticus* Krombein, 1958. Amer. Ent. Soc. Trans. 84: 164, ♀, ♂. (Made a subsp. of *fulvicornis* by Telford, 1964, *loc. cit. supra*, p. 19.)

Biology: Krombein, 1958, *loc. cit. supra*, pp. 166-167.

- \***fulvicornis fulvicornis** Cameron, changed status. Idaho and Iowa south to Calif. and Tex., and further south to Guatemala.  
**Parnopes fulvicornis** Cameron, 1888. Biol. Cent.-Amer. Hym., v. 1, p. 466, pl. 20, figs. 1, la. ♀. (Reduced to subsp. rank, *teste* Telford, 1964, *loc. cit. supra*, p. 16.)  
**Parnopes westcottii** Melander and Brues (syn. by Telford, 1964, *loc. cit. supra*, p. 16).  
**Parnopes diadema** Viereck (syn. under typical **westcottii** by Krombein, 1958. Amer. Ent. Soc. Trans. 84: 164).  
**Parnopes taeniata** Viereck (syn. by Telford, 1964, *loc. cit. supra*, p. 16).  
**hageni** Viereck. Syn. of **edwardsii** (Cresson).  
**henshawi** Viereck. Syn. of **edwardsii** (Cresson).  
**taeniata** Viereck. A syn. of **fulvicornis fulvicornis** Cameron.  
**westcottii** Melander and Brues. Syn. of **fulvicornis fulvicornis** Cameron.

Genus **CLEPTES** Latreille, pp. 726

- purpuratus** Cresson. Host: *Neodiprion* sp.  
 Biology: Dahlsten, 1961. Canad. Ent. 93: 192-193.  
 \***semiauratus** (Linnaeus). New Jersey (Metuchen); introduced from Europe.  
*Sphex semiauratus* Linnaeus, 1761. Fauna Suec., Ed. 2, p. 413. ♂.  
 \***Cleptes pallipes** Lepeletier, 1806. Mus. Hist. Nat. Ann. 7: 119, pl. 8, fig. 1. ♀.  
 \***Cleptes diana** Mocsáry, 1889. Monog. Chrysid., p. 46. ♂.

Genus **MESITIOPTERUS** Ashmead, p. 726

- \***floridensis** Krombein. Fla. (Gainesville).  
**Mesitiopterus floridensis** Krombein, 1960. Amer. Ent. Soc. Trans. 86: 28, fig. 6. ♂, ♀.  
**kahlii** Ashmead. Ariz. (Portal).

\*Genus **MICROSEGA** Krombein

- Microsega** Krombein, 1960. Amer. Ent. Soc. Trans. 86: 31.  
 Type: **Microsega bella** Krombein. By monotypy and orig. desig.  
 Place in Amiseginae (Sup. 1, p. 96) after **Mesitiopterus**.  
 \***bella** Krombein. Tex. (Cameron Co.).  
**Microsega bella** Krombein, 1960. Amer. Ent. Soc. Trans. 86: 32, figs. 1, 2, 5. ♀.

Genus **ADELPHE** Mocsáry, Sup. 1, p. 96

- \***anisomorphae** Krombein. Ga., Fla., La. Host: *Anisomorpha ferruginea* (Beauv.), eggs.  
**Adelphe anisomorphae** Krombein, 1960. Amer. Ent. Soc. Trans. 86: 35, fig. 3. ♂, ♀.

## Family BETHYLIDAE

Taxonomy: Evans, 1964. Mus. Compar. Zool. Bul. 132: 1-222, 144 figs. (synopsis of American spp.).

\*Subfamily EPYRINAE

\*Tribe CEPHALONOMIINI

Genus **CEPHALONOMIA** Westwood, p. 727

- \***Cephalonomia** subg. **Cephaloderma** Hoffer, 1936. Festchr. Embrik Strand, vol. 1, p. 459. (Syn. by Evans, 1964, *loc. cit. supra*, p. 159.)  
 Type: **Cephalonomia (Cephaloderma) strandi** Hoffer. By monotypy.

*gallicola* (Ashmead).

\**Cephalonomia (Cephaloderma) strandi* Hoffer, 1936. Festschr. Embrik Strand, vol. 1, p. 460. ♀. (Syn. by Evans, 1964, *loc. cit. supra*, p. 159.)

*hyalinipennis* Ashmead. Mass. Host: *Conophthorus coniperda* (Schw.).

\**perpusilla* Evans. Oreg., Calif., Ariz.; Mexico (Baja California, Nayarit). Host: Cid beetle larvae in fungi.

*Cephalonomia perpusilla* Evans, 1963. Psyche 70: 152. ♂, ♀.

*utahensis* Brues. Hosts: *Conophthorus radiatae* Hopk. and *Ernobius punctulatus* Fall.

Biology: Schaefer, 1962. Ent. Soc. Amer. Ann. 55: 574-575, fig. 6.

#### Genus PLASTANOXUS Kieffer

Transferred from p. 731.

*chittendenii* (Ashmead). Transcont. in U. S. and southern Canada.

\**incompletus* Evans. Ariz. (Mesa).

*Plastanoxus incompletus* Evans, 1964. Mus. Compar. Zool. Bul. 132: 152. ♀.

*laevis* (Ashmead). Brazil (?).

*westwoodi* (Kieffer). Widely distributed in U. S.; Africa; probably cosmopolitan.

#### \*Tribe SCLERODERMINI

##### \*Genus NESEPYRIS Bridwell

*Nesepyris* Bridwell, 1920. Hawaiian Ent. Soc. Proc. 4: 309.

Type: *Nesepyris ewa* Bridwell. By monotypy.

Place before *Glenosema* Kieffer, p. 727.

\**floridanus* Evans. Fla.; Mexico.

*Nesepyris virginianus* Evans, 1964. Mus. Compar. Zool. Bul. 132: 164, 111, 112. ♀.

\**virginianus* Evans. Md., Va.

*Nesepyris virginianus* Evans, 1964. Mus. Compar. Zool. Bul. 132: 164, fig. 110. ♀.

##### Genus GLENOSEMA Kieffer, p. 727

*californicus* (Bridwell). Transfer to syn. of *Bethylus decipiens* (Provancher), p. 732.

\**crandalli* Evans. Ariz. (Santa Catalina Mts.).

*Glenosema crandalli* Evans, 1964. Mus. Compar. Zool. Bul. 132: 170, fig. 116. ♀.

##### Genus SCLERODERMA Latreille, p. 728

\**Neoscleroderma* Kieffer, 1905. Soc. Sci. Bruxelles Ann. 29: 106. (Syn. by Evans, 1964, *loc. cit. supra*, p. 174.)

Type: *Ateleopterus virginianensis* Ashmead. Desig. by Kieffer, 1914.

#### \*Tribe EPYRINI

##### Genus LAELIUS Ashmead, p. 728

*utilis* Cockerell. Ont.

##### EPYRIS subgenus EPYRIS Westwood

(= Genus *Epyris* Westwood, pp. 728-729)

\**Muellerella* Saussure, 1892. In Grandidier, Hist. Nat. Madagascar 20:

pl. 25, fig. 20. (Syn. by Evans, 1964, *loc. cit. supra*, p. 104.)

Type: *Muellerella amabilis* Saussure. By monotypy.

\**Parepyris* Kieffer, 1913 (not of Brèthes, 1913). Lab. Zool. Gen. e Agr. Portici Bol. 7: 108. (Syn. by Evans, 1964, *loc. cit. supra*, p. 104.)

Type: *Epyris interruptus* Kieffer. Desig. by Kieffer, 1914.

*Psilepyris* Kieffer, 1913. (Syn. by Evans, 1964, *loc. cit. supra*, p. 104.)

*indivisus* Kieffer. Transf. from *Psilepyris* Kieffer, p. 730 (*teste* Evans, 1964, *loc. cit. supra*, p. 104).

\**vierecki* Krombein. Md. (Plummers Island).

*Epyris vierecki* Krombein, 1962. Biol. Soc. Wash. Proc. 75: 1. ♂, ♀.

#### Nomen Nudum in *Epyris* Westwood

\**Epyris monticola* Ashmead in Cockerell, 1889. Colo. Biol. Assn., 10th Rept., [p. 2] (probably published originally in Custer County Courant newspaper).

#### \*Genus BAKERIELLA Kieffer

*Bakeriella* Kieffer, 1910. Soc. Ent. France Ann. 78: 288.

Type: *Bakeriella flavicornis* Kieffer. By monotypy.

Place before *Rhabdepyris* Kieffer, p. 729.

\**floridana* Evans. Fla. (Paradise Key).

*Bakeriella floridana* Evans, 1964. Mus. Compar. Zool. Bul. 132: 134, fig. 84. ♂, ♀.

#### Genus RHABDEPYRIS Kieffer, pp. 729–730

*Chlorepyris* Kieffer, 1913. (Syn. by Evans, 1964, *loc. cit. supra*, p. 93.)

*aeneiceps* (Ashmead). Transf. to *Anisepyris* Kieffer, p. 730. Delete Ga. from distribution.

*analis* (Cresson). Transf. to *Anisepyris* Kieffer, p. 730.

*columbianus* (Ashmead). Transf. to *Anisepyris* Kieffer, p. 730.

*fulgens* (Brues). Transf. from *Chlorepyris* Kieffer, p. 730 (*teste* Evans, 1964, *loc. cit. supra*, p. 95).

*grandis* (Ashmead). Transf. to *Anisepyris* Kieffer, p. 730.

*haemorrhoidalis* Kieffer. Transf. to *Holepyris* Kieffer, p. 730.

*occidentalis* (Ashmead). Transf. to *Anisepyris* Kieffer, p. 730.

*zeae* Turner and Waterston. Transf. to syn. of *Holepyris sylvanidis* (Brèthes), p. 730.

#### Genus HOLEPYRIS Kieffer, p. 730

\**Holepyris* subg. *Rysepyris* Kieffer, 1906. In André, Spec. Hym. Eur. Alg., v. 9, p. 341. (Syn. by Evans, 1964, *loc. cit. supra*, p. 140.)

Type: *Holepyris (Rysepyris) numidicus* Kieffer. Desig. by Kieffer, 1914.

\**Misepyrus* Kieffer, 1913. Lab. Zool. Gen. e Agr. Portici Bol. 7: 108. (Syn. by Evans, 1964, *loc. cit. supra*, p. 140.)

Type: *Holepyris remotus* Kieffer. Desig. by Kieffer, 1914.

\**Parepyris* Brèthes, 1913 (not of Kieffer, 1913). Buenos Aires Mus. Nac. de Hist. Nat. An. 24: 87. (Syn. by Evans, 1964, *loc. cit. supra*, p. 140.)

Type: *Parepyris sylvanidis* Brèthes. By monotypy.

*haemorrhoidalis* (Kieffer). Transf. from *Anisepyris* Kieffer, p. 729 (*teste* Evans, 1964, *loc. cit. supra*, p. 143).

\**sylvanidis* (Brèthes). Widespread in U. S.; cosmopolitan. Host: *Oryzaephilus surinamensis* (L.).

*Parepyris sylvanidis* Brèthes, 1913. Buenos Aires Mus. Nac. de Hist. Nat. An. 24: 87. ♂, ♀.

*Rhabdepyris zeae* Turner and Waterston (syn. by Evans, 1964, *loc. cit. supra*, p. 143).

**Genus *Psilepyris* Kieffer, p. 730**

Syn. of *Epyris* subg. *Epyris* Westwood, p. 728.

*indivisus* (Kieffer). Transf. to *Epyris* Westwood, p. 729.

**Genus *Chlorepyris* Kieffer, p. 730**

Transfer to synonymy of *Rhabdepyris* Kieffer, p. 729.

*fulgens* (Brues). Transfer to *Rhabdepyris* Kieffer, p. 729.

**Genus *Xanthepyrus* Kieffer, p. 730**

A synonym of *Pseudisobrachium* Kieffer, pp. 731-732.

**Genus *Acrepyris* Kieffer, p. 730**

Transfer to *Pristocera* Klug, p. 731, as a valid subgenus (*teste* Evans, 1963. Mus. Compar. Zool. Bul. 129: 248).

*reticulatus* (Kieffer). Transf. to *Pristocera* Klug, p. 731, as a syn. of *armifera* (Say).

**Genus ANISEPYRIS Kieffer, pp. 730-731**

\**Rhabdepyris* subg. *Lophepyris* Evans, 1959. Ent. Soc. Wash. Proc. 61: 201. (Syn. by Evans, 1964, *loc. cit. supra*, p. 96.)

Type: *Rhabdepyris (Lophepyris) bridwelli* Evans. By orig. desig.

Revision: Evans, 1959. Ent. Soc. Wash. Proc. 61: 97-120, 28 figs.—Evans, 1959. Ent. Soc. Wash. Proc. 61: 201-204.

*aeneiceps* (Ashmead). Transf. from *Rhabdepyris* Kieffer, p. 729 (*teste* Evans, 1959, *loc. cit. supra*, p. 107).

*analis* (Cresson). Fla. and Tex. to Tenn. and N. C. Transf. from *Rhabdepyris* Kieffer, p. 729 (*teste* Evans, 1959, *loc. cit. supra*, p. 118).

\**arizonicus* Evans. Ariz. (Santa Rita Mts.).

*Anisepyris arizonicus* Evans, 1959. Ent. Soc. Wash. Proc. 61: 112, fig. 15. ♀.

\**bradleyi* (Evans). Tex. (Wharton).

*Rhabdepyris (Lophepyris) bradleyi* Evans, 1959. Ent. Soc. Wash. Proc. 61: 204. ♀.

\**bridwelli* (Evans). Tex. (Brownsville, Laredo); Mexico.

*Rhabdepyris (Lophepyris) bridwelli* Evans, 1959. Ent. Soc. Wash. Proc. 61: 202. ♀, ♂.

*columbianus* (Ashmead). Mass. west to Kans. south to Fla. and Tex. Transf. from *Rhabdepyris* Kieffer, p. 729 (*teste* Evans, 1959, *loc. cit. supra*, p. 104).

*Anisepyris pulchellus* Fouts (syn. by Evans, 1959, *loc. cit. supra*, p. 104).

\**dietrichorum* Evans. Ariz. (Arivaca in Pima Co.).

*Anisepyris dietrichorum* Evans, 1959. Ent. Soc. Wash. Proc. 61: 118, fig. 21. ♀.

\**gibbosifrons* Evans. N. J., Fla.

*Anisepyris gibbosifrons* Evans, 1959. Ent. Soc. Wash. Proc. 61: 116, figs. 23, 25, 26. ♀, ♂.

*grandis* (Ashmead). Transf. from *Rhabdepyris* Kieffer, p. 729 (*teste* Evans, 1959, *loc. cit. supra*, p. 108).

\**laticeps* Evans. Southeastern Ariz.

*Anisepyris laticeps* Evans, 1959. Ent. Soc. Wash. Proc. 61: 113, figs. 18, 19, 24. ♀, ♂.

**occidentalis** (Ashmead). Ariz. and southern Calif. to Idaho and Wash. Transf. from *Rhabdepyris* Kieffer, p. 729 (*teste* Evans, 1959, *loc. cit. supra*, p. 109).

*Anisepyris punctaticeps* Kieffer (syn. by Evans, 1959, *loc. cit. supra*, p. 109).

**pulchellus** Fouts. Syn. of **columbianus** (Ashmead).

**punctaticeps** Kieffer. Syn. of **occidentalis** (Ashmead).

**subviolaceus** Kieffer. Fla., Tex. and N. Mex. north to Pa., Mich., Wyo., B. C.

\***williamsi** Evans. Ariz. and Calif. north to Oreg., Idaho and Utah.

*Anisepyris williamsi* Evans, 1959. Ent. Soc. Wash. Proc. 61: 106, fig. 9.  
♀, ♂.

#### Genus *Plastanoxus* Kieffer, p. 731

Transfer with component species to \*Tribe Cephalonomiini and place after *Cephalonomia* Westwood, p. 727 (*teste* Evans, 1964, *loc. cit. supra*, p. 148).

### \*Subfamily PRISTOCERINAE

#### Genus PRISTOCERA Klug, p. 731

##### PRISTOCERA subgenus ACREPYRIS Kieffer

Reduced to subg. of *Pristocera* Klug (*teste* Evans, 1963. *loc. cit. infra* p. 248).

\**Pristocera* subg. *Neopristocera* Yasumatsu, 1955. Fac. Agr. Kyushu Univ. Jour. 10: 248.

Type: *Pristocera japonica* Yasumatsu. Orig. desig.

Revision: Evans, 1963. Mus. Compar. Zool. Bul. 129: 241-290, 60 figs.

**armifera** (Say). N. H. and Vt. south to Fla., west to S. Dak., Colo. and Tex. Host: *Melanotus* sp.

*Scleroderma thoracica* Westwood not a syn. of **atra** Klug but of **armifera** (*teste* Evans, 1963, *loc. cit. supra*, p. 256).

*Acrepyris reticulatus* Kieffer (syn. by Evans, 1963, *loc. cit. supra*, p. 256).

**atra** Klug. N. C. to Fla., west to N. Mex. Remove **thoracica** (Westwood) from syn. of **atra** and transfer it to syn. of **armifera** (Say).

\***bridwelli** Evans. Ark. (Dodd City).

*Pristocera (Acrepyris) bridwelli* Evans, 1963. Mus. Compar. Zool. Bul. 129: 267. ♂, ♀.

\***californica** Evans. Calif., Utah, Wyo.

*Pristocera (Acrepyris) californica* Evans, 1963. Mus. Compar. Zool. Bul. 129: 263. ♂.

\***chihuahua** Evans. Ariz.; Mexico (Chihuahua, Zacatecas).

*Pristocera (Acrepyris) chihuahua* Evans, 1963. Mus. Compar. Zool. Bul. 129: 284. ♂.

\***cockerelli** Evans. Tex. to Ariz.; Mexico (Sonora, Oaxaca).

*Pristocera (Acrepyris) cockerelli* Evans, 1963. Mus. Compar. Zool. Bul. 129: 264. ♂, ♀.

\***fraterna** Evans. N. C. to Fla., Kans.

*Pristocera (Acrepyris) fraterna* Evans, 1963. Mus. Compar. Zool. Bul. 129: 261. ♂, ♀ (?).

**hyalina** Brues. La., Tex., N. Mex.

#### \*Genus APENESIA Westwood

*Apenesia* Westwood, 1874. Thesaurus Ent. Oxon., p. 170.

Type: *Apenesia amazonica* Westwood. Desig. by Westwood, 1881.

\**Aeluroides* Tullgren, 1904. Ark. Zool. 1: 428.

Type: *Aeluroides sjostedti* Tullgren. By monotypy.

- \**Propristocera* Kieffer, 1905. In André, Spec. Hym. Eur. Alg., v. 9, p. 247.  
Type: *Propristocera interrupta* Kieffer, Desig. by Kieffer, 1914.
- \**Cleistepyris* Kieffer, 1910. Soc. Ent. France Ann. 79: 48.  
Type: *Cleistepyris punctatus* Kieffer, 1910. Desig. by Kieffer, 1914.
- \**Dipristocera* Kieffer, 1914. Das Tierreich, Lief. 41, p. 471.  
Type: *Dipristocera microchela* Kieffer. By monotypy.
- \**Neopristocera* Benoit, 1957. Explor. Parc Nat. Albert, Mission DeWitte, fasc. 88, p. 44. Preocc.  
Type: *Neopristocera triloba* Benoit. Orig. desig.  
Revision: Evans, 1963. Mus. Compar. Zool. Bul. 130: 249-359, 138 figs.  
Place after *Pristocera* Klug, p. 731.
- \**chiricahua* Evans. Ariz.; Mexico (Mexico).  
*Apenesia chiricahua* Evans, 1963. Mus. Compar. Zool. Bul. 130: 306, figs. 57, 60, 69, 80, 84. ♂.
- \**cochise* Evans. Ariz. (Cochise Co.).  
*Apenesia cochise* Evans, 1963. Mus. Compar. Zool. Bul. 130: 296, figs. 27, 32. ♂.
- \**dissomphaloides* Evans. Ariz. (Pinal Co.).  
*Apenesia dissomphaloides* Evans, 1963. Mus. Compar. Zool. Bul. 130: 297, figs. 37, 42. ♂.
- \**exilis* Evans. Ariz., Calif.  
*Apenesia exilis* Evans, 1963. Mus. Compar. Zool. Bul. 130: 293, figs. 28, 30, 33, 34. ♂.
- \**martini* Evans. Fla. (Manatee Co.).  
*Apenesia martini* Evans, 1963. Mus. Compar. Zool. Bul. 130: 294, fig. 29. ♂.
- \**mohave* Evans. Calif.; Mexico (Baja California).  
*Apenesia mohave* Evans, 1963. Mus. Compar. Zool. Bul. 130: 308, figs. 58, 61. ♂.
- \**pallidula* Evans. Ariz. (Cochise Co.).  
*Apenesia pallidula* Evans, 1963. Mus. Compar. Zool. Bul. 130: 300, figs. 38, 43, 46, 50. ♂.
- \**parapolita* Evans. Ark., La., Ala., and Ga., north to Ill., W. Va. and N. Y.  
\**Propristocera polita* Evans, 1958. Ent. Soc. Wash. Proc. 59: 294, figs. 2, 6. ♂. Preocc. in *Apenesia*.  
*Apenesia parapolita* Evans, 1963. Mus. Compar. Zool. Bul. 130: 322 (♂), 347 (♀), figs. 81, 96, 127, 136. N. name.
- \**pima* Evans. Ariz. (Tucson).  
*Apenesia pima* Evans, 1963. Mus. Compar. Zool. Bul. 130: 292, figs. 26, 31, 35, 36. ♂.

\*Genus PARASCLERODERMA Kieffer

- Parascleroderma* Kieffer, 1904. Mus. Civ. Stor. Nat. Genova Ann. 41: 376.  
Type: *Parascleroderma fulviceps* Kieffer. Orig. desig.  
Place on p. 731 after \**Apenesia* Westwood.
- \**insolita* (Evans). Tex. (Brownsville).  
*Apenesia insolita* Evans, 1963. Mus. Compar. Zool. Bul. 130: 350, figs. 130, 138. ♀.

Genus PSEUDISOBRACHIUM Kieffer, pp. 731-732

- \**Monepyris* Kieffer, 1905. Soc. Sci. Bruxelles Ann. 29: 101, 124.  
Type: *Epyris halidayi* Westwood (= *subcyaneum* Haliday).  
By monotypy.

\**Plutobethylus* Kieffer, 1910. Soc. Ent. France Ann. 79: 51.

Type: *Plutobethylus distans* Kieffer. Orig. desig.

\**Lyssepyris* Kieffer, 1913. Portici Lab. Zool. Gen. e Agr. Bol. 7: 108.

Type: *Holepyris flavicornis* Kieffer. By monotypy.

*Xantepyrus* Kieffer, 1913. Portici Lab. Zool. Gen. e Agr. Bol. 7: 108.

Type: *Epyris flaviventris* Kieffer. By monotypy.

\**Lissepyris* (!) Kieffer, 1914. Das Tierreich 41: 236. Typ. error.

*Xanthepyrus* Kieffer, 1914. Das Tierreich 41: 417. Emend.

\**Parisobrachium* Kieffer, 1914. Das Tierreich 41: 424.

Type: *Rhabdepyris* (?) *albipes* Kieffer. By monotypy.

Revision: Evans, 1961. Mus. Compar. Zool. Bul. 126: 211-318, 5 pls.

Members of this genus have been taken in ant nests, but it is not certain whether they are parasitic on the ant larvae or on larvae of associated myrmecophilous beetles.

*agile* Whittaker. Change orig. cit. to Roy. Ent. Soc. London Trans. 76: 386, pl. 13, fig. 4. ♂. Syn. of *prolongatum* (Provancher).

\**anomalum* Evans. N. J., Va., Fla., Ill.

*Pseudisobrachium anomalum* Evans, 1961. Mus. Compar. Zool. Bul. 126: 311, figs. 8, 54, 64, 67. ♂.

\**apache* Evans. Ariz. (Santa Cruz, Gila and Pinal Counties).

*Pseudisobrachium apache* Evans, 1961. Mus. Compar. Zool. Bul. 126: 299, fig. 46. ♂.

\**arenarium* Evans. N. J., Pa. (?), N. C., Ga., Fla. (?), Ala., Miss., Mo. (?), Ill. Associated with ponerine ants.

*Pseudisobrachium arenarium* Evans, 1961. Mus. Compar. Zool. Bul. 126: 263, figs. 20, 39, 57. ♂, ♀ (?).

\**ashmeadi* Evans. Mass., Ont., Mich. and Kans., south to Fla., Ala. and La. Associated with formicine and dolichoderine ants.

*Pseudisobrachium ashmeadi* Evans, 1961. Mus. Compar. Zool. Bul. 126: 275, figs. 1, 23, 38, 58, 63. ♂, ♀ (?).

*carbonarium* (Ashmead). Md. south to Ga., Ala., W. Va., Ky. (?), Ill., Kans., N. Dak. (?).

Taxonomy: Evans, 1961, *loc. cit. supra*, p. 271, figs. 23, 37. ♂, ♀ (?).

\**carolinianum* Evans. S. C., Fla.

*Pseudisobrachium carolinianum* Evans, 1961. Mus. Compar. Zool. Bul. 126: 254. ♂.

\**castaneum* Evans. Calif. (San Diego).

*Pseudisobrachium castaneum* Evans, 1961. Mus. Compar. Zool. Bul. 126: 248, fig. 56. ♂.

\**comanche* Evans. Ariz., Tex.

*Pseudisobrachium comanche* Evans, 1961. Mus. Compar. Zool. Bul. 126: 298, fig. 59. ♂.

\**crassum* Evans. Tex. (Brownsville, San Antonio).

*Pseudisobrachium crassum* Evans, 1961. Mus. Compar. Zool. Bul. 126: 239, fig. 13. ♂.

\**emarginatum* Evans. Tex. (Kerrville).

*Pseudisobrachium emarginatum* Evans, 1961. Mus. Compar. Zool. Bul. 126: 303, fig. 49. ♂.

*flavicoxis* Fouts. Syn. of *rufiventre* (Ashmead).

*flavinervis* Fouts. Calif., Nev., Ariz., Tex.

Taxonomy: Evans, 1961, *loc. cit. supra*, p. 305, figs. 6, 31, 38, 62. ♂, ♀ (?).

*flaviventre* (Kieffer). Del. to Fla., west to Tex., Kans., Ill. Associated with myrmicine ants.

Taxonomy: Evans, 1961, *loc. cit. supra*, p. 288, figs. 41, 60. ♂, ♀ (?).



- \***foutsi** Evans. Tex., N. Mex. (?), Ariz. (?), Calif. (?); Mexico (Coahuila).  
*Pseudisobrachium foutsi* Evans, 1961. Mus. Compar. Zool. Bul. 126: 300, figs. 29, 61. ♂.
- \***gibbosum** Evans. N. Mex. (Rodeo).  
*Pseudisobrachium gibbosum* Evans, 1961. Mus. Compar. Zool. Bul. 126: 255. ♂.
- \***krombeini** Evans. N. Mex. (Albuquerque, White Sands).  
*Pseudisobrachium krombeini* Evans, 1961. Mus. Compar. Zool. Bul. 126: 287, figs. 27, 50. ♂.
- \***macrops** Evans. Tex. (Cameron and Hidalgo Counties).  
*Pseudisobrachium macrops* Evans, 1961. Mus. Compar. Zool. Bul. 126: 309. ♂.
- magnum** (Ashmead). Syn. of **prolongatum** (Provancher).
- mandibulare** (Ashmead). Syn. of **prolongatum** (Provancher).
- \***matthewsi** Evans. Tex. (Van Horn, El Paso (?)).  
*Pseudisobrachium matthewsi* Evans, 1961. Mus. Compar. Zool. Bul. 126: 249, fig. 36. ♂, ♀ (?).
- \***minimum** Evans. N. Mex., Ariz.  
*Pseudisobrachium minimum* Evans, 1961. Mus. Compar. Zool. Bul. 126: 280, fig. 24. ♂.
- \***minutissimum** Evans. N. Mex., Ariz.; Mexico (Morelos, Baja California), Guatemala.  
*Pseudisobrachium minutissimum* Evans, 1961. Mus. Compar. Zool. Bul. 126, fig. 26. ♂.
- montanum** (Ashmead). Syn. of **prolongatum** (Provancher).
- myrmecophilum** (Ashmead). Syn. of **prolongatum** (Provancher).
- \***navajo** Evans. Ariz. (Coconino and Yavapai Counties).  
*Pseudisobrachium navajo* Evans, 1961. Mus. Compar. Zool. Bul. 126: 283, fig. 25. ♂.
- \***obscurum** Evans. Tex., Ariz.; Mexico (Chihuahua, Baja California).  
*Pseudisobrachium obscurum* Evans, 1961. Mus. Compar. Zool. Bul. 126: 258, figs. 16, 36. ♂, ♀ (?).
- \***occidentale** Evans. Calif., Ariz. Associated with dolichoderine ants.  
*Pseudisobrachium occidentale* Evans, 1961. Mus. Compar. Zool. Bul. 126: 244, figs. 14, 55. ♂, ♀ (?).
- \***otiosum** Evans. Ariz. (Superior).  
*Pseudisobrachium otiosum* Evans, 1961. Mus. Compar. Zool. Bul. 126: 256. ♂.
- \***pallidum** Evans. Ariz. (Wellton).  
*Pseudisobrachium pallidum* Evans, 1961. Mus. Compar. Zool. Bul. 126: 258, fig. 17. ♂.
- paucipunctatum** Fouts. Utah, Calif.  
 Taxonomy: Evans, 1961, *loc. cit. supra*, p. 316. ♀.
- \***persimile** Evans. Calif., B. C. (?).  
*Pseudisobrachium persimile* Evans, 1961. Mus. Compar. Zool. Bul. 126: 284, fig. 2. ♂, ♀ (?).
- prolongatum** (Provancher). Change ♀ to "♀" = ♂ in orig. cit. N. B. and N. S. west to B. C., and Wash., south to N. C., Ky., Ill. and Iowa. Associated with formicine and myrmicine ants.  
*Pseudisobrachium magnum* (Ashmead) (syn. by Evans, 1961, *loc. cit. supra*, p. 266, figs. 21, 22, 39, 57).  
*Pseudisobrachium myrmecophilum* (Ashmead), ♂ (♀ misdet.) (syn. by Evans, 1961, *loc. cit. supra*, p. 266).  
*Pseudisobrachium mandibulare* (Ashmead), ♀ (♂ misdet.) (syn. by Evans, 1961, *loc. cit. supra*, p. 266).

*Pseudisobrachium montanum* (Ashmead) ♀ (♂ misdet.) (syn. by Evans, 1961, *loc. cit. supra*, p. 266).

*Pseudisobrachium rugosulum* Fouts (syn. by Evans, 1961, *loc. cit. supra*, p. 266).

*Pseudisobrachium agile* Whittaker (syn. by Evans, 1961, *loc. cit. supra*, p. 266).

*puncticeps* Fouts. Syn. of *rufiventre* (Ashmead).

\**pusillum* Evans. La. (Shreveport), Ark. (?).

*Pseudisobrachium pusillum* Evans, 1961. Mus. Compar. Zool. Bul. 126: 297. ♂, ♀ (?).

\**rectangulatum* Evans. Tex., Kans., Nebr.; Mexico (Nuevo Leon).

*Pseudisobrachium rectangulatum* Evans, 1961. Mus. Compar. Zool. Bul. 126: 304. ♂.

*rufiventre* (Ashmead). Mass. and N. Y. south to Fla. and La. Associated with formicine ants.

*Pseudisobrachium flavicoxis* Fouts (syn. by Evans, 1961, *loc. cit. supra*, p. 293, figs. 5, 40. ♂, ♀).

*Pseudisobrachium puncticeps* Fouts (syn. by Evans, 1961, *loc. cit. supra*, p. 293).

*rugosulum* Fouts. Syn. of *prolongatum* (Provancher).

\**texanum* Evans. Tex. (Harlingen, Brownsville, Wharton, San Antonio).

*Pseudisobrachium texanum* Evans, 1961. Mus. Compar. Zool. Bul. 126: 240, figs. 48, 53. ♂.

#### Genus DISSOMPHALUS Ashmead, p. 732

\**Thaumatepyris* Kieffer, 1910. Soc. Ent. France Ann. 79: 47.

Type: *Thaumatepyris punctatus* Kieffer. By monotypy.

\**Glenobethylus* Kieffer, 1910. Soc. Ent. France Ann. 79: 50.

Type: *Glenobethylus montanus* Kieffer. By monotypy.

\**Parecitopria* Ogloblin, 1930. Soc. Ent. Arg. Rev. 3: 15.

Type: *Parecitopria azarai* Ogloblin. By monotypy.

Taxonomy: Evans, 1962. Ent. Soc. Wash. Proc. 64: 65-78, 4 figs. (revised key).

*altivolans* Evans. Ala., Ill., Tex., Ariz., Calif.

Taxonomy: Evans, 1962, *loc. cit. supra*, p. 76. ♀.

*apertus* Kieffer. N. Y., Pa., Ill.

\**arizonicus* Evans. Ariz. (Portal).

*Dissomphalus arizonicus* Evans, 1962. Ent. Soc. Wash. Proc. 64: 70, fig. 3. ♂.

*barberi* Evans. Maine, N. C.

*foveolatus* (Brown and Cheng). Ga., Ark., Ill. Delete Ariz. from distribution.

*kansanus* Evans. Pa., Fla., Ill.

*nigrescens* Evans. Ark. ?

Taxonomy: Evans, 1962, *loc. cit. supra*, p. 75 (putative ♀).

*xanthopus* Ashmead. Ky., Miss., Ark. Ariz.

#### \*Subfamily BETHYLINAE

#### Genus BETHYLUS Latreille, p. 732

*Digoniozus* Kieffer (syn. by Evans, 1962, *loc. cit. infra*, p. 1).

Revision: Evans, 1962. Breviora, No. 150, 12 pp., 3 figs., 1 map.

*amoenus* Fouts. N. W. T. south to Alta., east through Wis. and Ill. to N. Y., Maine, and N. S.

*brachypterus* Whittaker. Syn. of *decipiens* (Provancher).

**decipiens** (Provancher). Alaska south to central Calif. eastward to N. Y., Maine, and N. S.

**Digoniozus oregonensis** (Ashmead) (syn. by Evans, 1962, *loc. cit. supra*, p. 7).

**Glenosema californicus** (Bridwell) (syn. by Evans, 1962, *loc. cit. supra*, p. 7).

**Bethylus brachypterus** Whittaker (syn. by Evans, 1962, *loc. cit. supra*, p. 7). Change ♀ ♂ to ♀.

**Bethylus flavicornis** Whittaker (syn. by Evans, 1962, *loc. cit. supra*, p. 7).

**flavicornis** Whittaker. Syn. of **decipiens** (Provancher).

Genus **Digoniozus** Kieffer, p. 732

Place as a synonym of **Bethylus** Latreille, p. 732, and transfer **oregonensis** (Ashmead) to synonymy of **decipiens** (Provancher).

Genus **GONIOZUS** Foerster, pp. 732-733

\***castaneicolor** Evans. "United States."

\***Bethylus castaneus** Kieffer, 1907. Berlin Ent. Ztschr. 51: 295. ♀. Preocc. in *Goniozus*.

**Goniozus castaneicolor** Evans, 1964. Mus. Compar. Zool. Bul. 132: 201. N. name.

Genus **Perisierola** Kieffer, pp. 733-734

Transfer to synonymy of **Parasierola** Cameron, p. 734.

Genus **PARASIEROLA** Cameron, p. 734

**Perisierola** Kieffer (syn. by Evans, 1964, *loc. cit. supra*, p. 195).

Remove parens from names of authors of *alutacea*, *gracilicornis*, and *punctaticeps*, and place parens around names of authors of *breviceps*, *cellularis*, and *emigrata*.

**bicarinata** Brues. Transfer to \***Prosierola** Kieffer which follows.

\***distinguenda** Kieffer. Calif.; Nicaragua.

**Parasierola distinguenda** Kieffer, 1908. In Wytsman, Gen. Ins., fasc. 76, p. 14.

\*Genus **PROSIEROLA** Kieffer

**Prosierola** Kieffer, 1905. In André, Spec. Hym. Eur. Alg., v. 9, p. 243.

Type: *Epyris* (?) *nasalis* Westwood. By monotypy.

Place after **Parasierola** Cameron, p. 734.

**bicarinata** (Brues). Ga., Fla., Tex. Transf. from **Parasierola** Cameron, p. 734 (*teste* Evans, 1964, *loc. cit. supra*, p. 185).

## Family DRYINIDAE

Genus **MESODRYINUS** Kieffer, p. 1034

\***crawfordi** Krombein. Md. (Plummers Island).

**Mesodryinus crawfordi** Krombein, 1962. Biol. Soc. Wash. Proc. 75: 3. ♀.

Genus **PSILODRYINUS** Kieffer, p. 1035

**typhlocybae** (Ashmead). Tex. Host: *Metcalfa pruinosa* (Say).

Biology: Dean and Bailey, 1961. Jour. Econ. Ent. 54: 1104-1106, 2 figs.

Genus **EUCAMPTONYX** Perkins, p. 1037

**secundus** Fenton. Md., Kans.

Genus **GONATOPUS** Ljungh, pp. 1037-1038

\***curriei** Krombein. Md. (Plummers Island).

**Gonatopus curriei** Krombein, 1962. Biol. Soc. Wash. Proc. 75: 4. ♀.

Genus **EPIGONATOPUS** Perkins, p. 1039**plesius** Fenton. Ont. Host: *Macrosteles fascifrons* (Stål).

Biology: George, 1959. Canad. Ent. 91: 256.

Genus **AMPULICOMORPHA** Ashmead, p. 1043**confusa** Ashmead. Wis. Host: nymphs of *Epiptera floridæ* (Wlkr.) on rotten pine and oak logs.

Biology: Bridwell, 1958. Ent. Soc. Wash. Proc. 60: 23-26.

Genus **EMBOLEMUS** Westwood, p. 1043Change citation for *Embolemus* to London and Edinb. Phil. Mag. and Jour. Sci. 2: 444.Family **TRIGONALIDAE**Genus **LYCOGASTER** Shuckard, p. 735**pullata pullata** Shuckard. Ga. Host: *Telea polyphemus* Crmr., probably secondary.**pullata nevadensis** (Cresson). Host. *Euodynerus foraminatum scutellaris* (Sauss.).Genus **BAREOGONALOS** Schulz, p. 735**canadensis** (Harrington). Calif. Host: *Vespula (Dolichovespula) arenaria* (F.).

Biology: Stage and Slobodchikoff, 1962. Pan-Pacific Ent. 37(2): 97-98.

Superfamily **SCOLIOIDEA**Family **TIPHIIDAE**Genus **TIPHIA** Fabricius, pp. 735-739

Taxonomy: Allen, 1961. Amer. Ent. Soc. Trans. 87: 1-20 (key to described North American spp.).

*Tiphia femorata* Fabricius and *T. morio* Fabricius were introduced from Europe and liberated in New York in 1956 and 1957 for control of *Amphimallon majalis* (Raz.), the European chafer.**arida** Malloch. Vt., Pa.**atlantis** Allen.Taxonomy: Allen, 1961, *loc. cit. supra*, p. 16. ♂.**\*bakeri** Allen. Wash., Nev.*Tiphia bakeri* Allen, 1961. Amer. Ent. Soc. Trans. 87: 12. ♂.**dentata** Allen. Syn. of *micropunctata* Allen.**fulvicauda** Cameron.

Taxonomy: Allen, 1962. Amer. Ent. Soc. Trans. 88: 24 (type redescription).

**hollowayi** Allen. Syn. of *infossata* Allen.**illinoensis** Robertson.*Tiphia waldenii* Viereck (syn. by Allen, 1961, *loc. cit. supra*, p. 18).**incisurata** Malloch.Taxonomy: Allen, 1961, *loc. cit. supra*, p. 20.**\*indistincta** Allen. W. Va. (Kanawha Sta.).*Tiphia indistincta* Allen, 1961. Amer. Ent. Soc. Trans. 87: 14. ♀.**infossata** Allen.*Tiphia hollowayi* Allen (syn. by Allen, 1961, *loc. cit. supra*, p. 19).

**\*irfla** Allen. Fla.

*Tiphia irfla* Allen, 1961. Amer. Ent. Trans. 87: 10. ♂, ♀.

**jaynesi** Allen. Md.

**micropunctata** Allen.

*Tiphia dentata* Allen (syn. by Allen, 1961, *loc. cit. supra*, p. 18).

**\*montana** Allen. Mont.

*Tiphia montana* Allen, 1961. Amer. Ent. Soc. Trans. 87: 13. ♂.

**nevadana** Cameron.

Taxonomy: Allen, 1962, *loc. cit. supra*, p. 22 (redescription of type).

**\*pennsylvanica** Allen. Pa., N. J., Del., Fla., La.

*Tiphia pennsylvanica* Allen, 1961. Amer. Ent. Soc. Trans. 87: 15. ♀.

**puncticeps** Cameron.

Taxonomy: Allen, 1962. Amer. Ent. Soc. Trans. 88: 23 (type redescription).

**relativa** Viereck.

*Tiphia winnemanae* Malloch (syn. by Allen, 1961, *loc. cit. supra*, p. 17).

**\*tempeae** Allen. Ariz. (Tempe).

*Tiphia tempeae* Allen, 1961. Amer. Ent. Soc. Trans. 87: 11. ♂.

**texensis** Malloch.

Taxonomy: Allen, 1961, *loc. cit. supra*, p. 19.

**vulgaris** Robertson.

Taxonomy: Allen, 1961, *loc. cit. supra*, p. 19.

**waldenii** Viereck. Syn. of *illinoensis* Robertson.

**winnemanae** Malloch. Syn. of *relativa* Viereck.

#### Genus NEOTIPHIA Malloch, p. 739

(= *Neotiphia* subg. *Neotiphia* Malloch, of Catalog)

Revision: Allen and Krombein, 1964. Amer. Ent. Soc. Trans. 89: 241-270.

**\*anima** Allen and Krombein. N. Mex., Ariz.

*Neotiphia anima* Allen and Krombein, 1964. Amer. Ent. Soc. Trans. 89: 262. ♀.

**\*barbata** Allen and Krombein. Ariz. (Continental, Tucson, Douglas).

*Neotiphia barbata* Allen and Krombein, 1964. Amer. Ent. Soc. Trans. 89: 264. ♂.

**carinata** Krombein. Syn. of *novemexicana* Allen.

**cockerelli** Allen, changed status. Tex., N. Mex.

*Neotiphia (Neotiphia) crawfordi* Allen of Catalog, in part. **N. cockerelli** Allen is a valid sp. (*teste* Allen and Krombein, 1964, *loc. cit. supra*, p. 255, fig. 50).

**conspicua** Allen. Syn. of *crawfordi* Allen.

**crawfordi** Allen. Tex. Remove *cockerelli* Allen, a valid sp., from synonymy.

*Neotiphia (Neotiphia) conspicua* Allen (syn. by Allen and Krombein, 1964, *loc. cit. supra*, p. 257, figs. 28, 41, 42).

**cristata** Allen. Transf. to *Krombeinia* Pate.

**novomexicana** Allen.

*Neotiphia carinata* Krombein (syn. by Allen and Krombein, 1964, *loc. cit. supra*, p. 251).

**\*parma** Allen and Krombein. Ariz., N. Mex.; Mexico (Mexico, Aguascalientes, Zacatecas).

*Neotiphia parma* Allen and Krombein, 1964. Amer. Ent. Soc. Trans. 89: 267, figs. 7, 54. ♂.

**pima** Pate. Kans. and Colo. to Tex., N. Mex. and Ariz.

\**rioverdei* Allen and Krombein. Ariz. (Del Rio Verde).

*Neotiphia rioverdei* Allen and Krombein, 1964. Amer. Ent. Soc. Trans. 89: 263. ♀.

*sulcata* (Roberts). Mich., Iowa and S. Dak. south to Tex. and Ariz.; Mexico (Jalisco).

*Neotiphia (Krombeinia) sulcata* (Roberts). Transf. from *Krombeinia* Pate (*teste* Allen and Krombein, 1964, *loc. cit. supra*, p. 245).

\**Neotiphia mexicana* Allen (syn. by Allen and Krombein, 1964, *loc. cit. supra*, p. 245).

*waltoni* Allen. Ariz.; Mexico (Chihuahua, Durango).

Genus *KROMBEINIA* Pate, changed status, p. 739

(= *Neotiphia* subg. *Krombeinia* Pate, of Catalog)

Revision: Allen and Krombein, 1964. Amer. Ent. Soc. Trans. 89: 214-241.

*cristata* (Allen). Ariz., N. Mex.

*Neotiphia (Neotiphia) cristata* Allen. Transf. from *Neotiphia* Malloch (*teste* Allen and Krombein, 1964, *loc. cit. supra*, p. 238, figs. 3, 29).

\**jonesi* Allen and Krombein. Ariz. (Douglas, Chiricahua, Huachuca Mts., Oracle).

*Krombeinia jonesi* Allen and Krombein, 1964. Amer. Ent. Soc. Trans. 89: 239, figs. 6, 65. ♂, ♀.

*sulcata* (Roberts). Transf. to *Neotiphia* Malloch.

Genus *PARATIPHIA* Sichel, pp. 739-740

\**aequalis atrata* Allen. Ariz. The typical subspecies occurs in Baja California, Mexico.

*Paratiphia aequalis atrata* Allen, 1963. Amer. Ent. Soc. Trans. 88: 228, figs. 5, 10, 15, 16. ♂, ♀.

*algonquina* Viereck. Pa.

\**asotinae* Allen. Wash. (Asotin).

*Paratiphia asotinae* Allen, 1963. Ent. News 74: 222. ♂, ♀.

*bakeri* Cameron.

Taxonomy: Allen, 1962, *loc. cit. supra*, p. 28 (type redescription).

\**belfragei* Allen. Tex. (Cypress Mill, Kerrville).

*Paratiphia belfragei* Allen, 1963. Ent. Soc. Amer. Ann. 56: 575, figs. 1, 2 c, d. ♂, ♀.

\**bradleyi* Allen. Tex. (Uvalde).

*Paratiphia bradleyi* Allen, 1963. Amer. Ent. Soc. Trans. 88: 231, figs. 2, 7, 12. ♂.

\**bridwelli* Allen. Kans. (Dickinson Co.).

*Paratiphia bridwelli* Allen, 1963. Amer. Ent. Soc. Trans. 88: 231, figs. 1, 6, 11, 19. ♂.

*claripennis* Cameron.

*Paratiphia ormsbyensis* Cameron (syn. by Allen, 1962, *loc. cit. supra*, p. 29).

\**ephippiata* Allen. Western Tex., N. Mex., Colo.

*Paratiphia ephippia* Allen, 1963. Ent. Soc. Amer. Ann. 56: 574, figs. 1, 2 a, b, f. ♂, ♀.

*fuscinerva* Cameron.

Taxonomy: Allen, 1962, *loc. cit. supra*, p. 31 (type redescription).

*fortistriolata* Cameron. Syn. of *robusta* Cameron.

*insueta* Allen. Tex. (Ft. Davis Mts.).

*Paratiphia insueta* Allen, 1963. Ent. Soc. Amer. Ann. 56: 576, figs. 1, 2 e. ♂.

**intermedia** Cameron. Wash.

Taxonomy: Allen, 1962, *loc. cit. supra*, p. 32 (type redescription).—  
Allen, 1963, *loc. cit. supra*, p. 229, figs. 4, 9, 14, 17 (redescription  
♂, ♀).

**\*mitchelli** Allen. Tex., N. Mex.

*Paratiphia mitchelli* Allen, 1963. Amer. Ent. Soc. Trans. 88: 232, figs. 3,  
8, 13, 18. ♂.

**neomexicana** Cameron.

Taxonomy: Allen, 1962, *loc. cit. supra*, p. 31 (type redescription).

**nevadensis** Cameron.

*Paratiphia parvula* Cameron (syn. by Allen, 1962, *loc. cit. supra*, p. 27).

**ormsbyensis** Cameron. Syn. of **claripennis** Cameron.**parvula** Cameron. Syn. of **nevadensis** Cameron.**robusta** Cameron. Oreg., Wash., Idaho, Nev.

*Paratiphia fortistriolata* Cameron (syn. by Allen, 1962, *loc. cit. supra*, p.  
33).

**texana** Cameron.

Taxonomy: Allen, 1962, *loc. cit. supra*, p. 25 (type redescription).

**varipunctata** Cameron.

Taxonomy: Allen, 1962, *loc. cit. supra*, p. 30 (type redescription).

**\*verna** Allen. Calif., Nev.

*Paratiphia verna* Allen, 1963. Ent. News 74: 219. ♂, ♀.

**Genus BRACHYCISTIS** Fox, pp. 742–745**aequalis** Fox. Transf. to **Acanthetropis** Wasbauer.**idiotes** Cockerell. Transf. to **Acanthetropis** Wasbauer.**noctivaga** Bradley. Transf. to **Acanthetropis** Wasbauer.**normalis** Malloch. Transf. to **Acanthetropis** Wasbauer.**\*Genus ACANTHETROPIIS** Wasbauer

*Acanthetropis* Wasbauer, 1958. Pan-Pacific Ent. 34: 139.

Type: *Acanthetropis lamellatus* Wasbauer. Orig. desig.

Place after **Colocistis** Krombein, p. 745.

**aequalis** (Fox). Transf. from **Brachycistis**, p. 742 (*teste* Wasbauer, 1958,  
*loc. cit. supra*, p. 142).**idiotes** (Cockerell). Transf. from **Brachycistis**, p. 743 (*teste* Wasbauer, 1958,  
*loc. cit. supra*, p. 142).**noctivaga** (Bradley). Transf. from **Brachycistis**, p. 744 (*teste* Wasbauer,  
1958, *loc. cit. supra*, p. 142).**normalis** (Malloch). Transf. from **Brachycistis**, p. 744 (*teste* Wasbauer,  
1958, *loc. cit. supra*, p. 142).**\*Genus BRUESIELLA** Mann

(= **Eurycros** Mickel and Krombein, p. 746)

*Bruesiella* Mann, 1914. Psyche 21: 182.

Type: *Bruesiella formicaria* Mann. By monotypy and orig.  
desig.

This new synonymy is based on an examination of the type from Hidalgo,  
Mexico, in the Museum of Comparative Zoology. The genus was assigned  
erroneously by Mann to the Bethyilidae.

**METHOCHA** subgenus **METHOCHA** Latreille, p. 747**californica** Westwood. Host: probably *Cicindela senilis* Horn, reared in lab.  
on *Omus californicus* Esch.

Biology: Burdick and Wasbauer, 1959. Wasmann Jour. Biol. 17: 75-88, 6 figs.

\**impolita* Krombein. W. Va., D. C., N. Y.

*Methocha (Methocha) impolita* Krombein, 1958. Ent. Soc. Wash. Proc. 60: 58. ♀.

MYRMOSA subgenus MYRMOSA Latreille, pp. 747-748

*bradleyi* Roberts.

Biology: Linsley, 1960. Pan-Pacific Ent. 36: 36 (mating behavior).

Genus MYRMOSULA Bradley, p. 748

*parvula* (Fox). Host: *Lasioglossum (Dialictus) inconspicuum* (Sm.).

## Family SIEROLOMORPHIDAE

Genus SIEROLOMORPHA Ashmead, pp. 748-749

Taxonomy: Evans, 1961. Breviora, No. 140, 12 pp., 6 figs.

*ambigua* (Ashmead). Syn. of *canadensis* (Provancher).

\**apache* Evans. Ariz.

*Sierolomorpha apache* Evans, 1961. Breviora, No. 140, p. 5, fig. 6. ♂.

\**bicolor* Evans. Ariz.

*Sierolomorpha bicolor* Evans, 1961. Breviora, No. 140, p. 4, fig. 5. ♀, ♂.

\**brevicornis* Evans. S. C. (Greenville).

*Sierolomorpha brevicornis* Evans, 1961. Breviora, No. 140, p. 8, fig. 3. ♂.

*canadensis* (Provancher). Alta., Ont. and Mass. south to Ariz., Tex. and Fla.

*Sierolomorpha ambigua* (Ashmead) (syn. by Evans, 1961. Breviora, No. 140, p. 11).

\**nigrescens* Evans. Yukon, Alta. and Sask. south to Calif., Ariz. and Colo.

*Sierolomorpha nigrescens* Evans, 1961. Breviora, No. 140, p. 9, fig. 1. ♂, ♀.

\**similis* Evans. Conn. south to Ga., W. Va., Kans.

*Sierolomorpha similis* Evans, 1961. Breviora, No. 140, p. 6, fig. 4. ♂, ♀.

## Family MUTILLIDAE

### Subfamily APTEROGYNINAE

Genus CHYPHOTES Blake, pp. 749-751

\**minimus* Mickel. Ariz. (Organ Pipe Natl. Mon.).

*Chypotes minimus* Mickel, 1963. Pan-Pacific Ent. 39: 186. ♂.

\**nitidus* Mickel. Calif. (Winterhaven).

*Chypotes nitidus* Mickel, 1963. Pan-Pacific Ent. 39: 188. ♀.

### Subfamily TYPHOCTINAE

Taxonomy: Krombein and Schuster, 1957. Ent. Soc. Wash. Proc. 59: 209-232, 2 pls.

Genus TYPHOCTES Ashmead, p. 751

*peculiaris mirabilis* (Cockerell), changed status. Kans., Colo., Tex., N. Mex., Ariz.; Mexico (Chihuahua).

*Typhoctes peculiaris* (Cresson) of Catalog, in part (*mirabilis* (Ckll.) is a subsp. of *peculiaris*, not a syn., *teste* Krombein and Schuster, 1957, *loc. cit. supra*, p. 230, figs. 5, 6).



**peculiaris peculiaris** (Cresson), changed status. Wash., Idaho, Utah, Ariz., Calif.

*Typhoctes peculiaris* (Cresson) of Catalog, in part (*peculiaris* (Cr.) and *difficilis* (Mickel) constitute the subspecies *p. peculiaris*, *teste* Krombein and Schuster, 1957, *loc. cit. supra*, p. 227, fig. 3)

\***striolatus** Krombein and Schuster. Ariz. to western Tex.

*Typhoctes striolatus* Krombein and Schuster, 1957. Ent. Soc. Wash. Proc. 59: 223, fig. 2. ♀, ♂.

\***williamsi** Krombein and Schuster. Southern Calif.

*Typhoctes williamsi* Krombein and Schuster, 1957. Ent. Soc. Wash. Proc. 59: 220, figs. 1, 4. ♂, ♀.

### Tribe SPHAEROPHTHALMINI

Taxonomy: Schuster, 1958. Ent. Amer. (n.s.) 37: 1-130, 7 pls. (Part II of a tribal revision of males containing keys to genera and subgenera and revisions of *Acrophotopsis* Schuster, *Dilophotopsis* Schuster and *Acanthophotopsis* Schuster).

Insert after heading subfamily SPHAEROPHTHALMINAE, p. 751.

#### PHOTOMORPHUS subgenus PHOTOMORPHUS Viereck

(= *Photomorphus* Viereck of Catalog, pp. 751-752)

Reduced to subgeneric rank (*teste* Schuster, 1952. Brooklyn Ent. Soc. Bul. 47: 53).

**banksi** (Bradley). Ala.

**johnsoni johnsoni** Viereck, changed status.

*Photomorphus johnsoni* Viereck. Reduced to subsp. rank (*teste* Schuster, 1958, *loc. cit. supra*, p. 46).

\***johnsoni natchitoches** Schuster. La.

*Photomorphus (Photomorphus) johnsoni natchitoches* Schuster, 1958. Ent. Amer. (n.s.) 37: 46. ♂.

#### PHOTOMORPHUS subgenus PHOTOMORPHINA Schuster

*Photomorphus* subg. *Photomorphina* Schuster, 1958. Ent. Amer. (n.s.) 37: 8 (in key), 39. Preocc. by *Photomorphus* subg. *Photomorphina* Schuster, 1952, and a syn. of it.

Type: *Photomorphus (Photomorphina) quadriangulata* Schuster. Orig. desig.

Place on p. 752 after *Photomorphus* subg. *Photomorphus* Viereck.

\***aurifera** Schuster. Ariz.

*Photomorphus (Photomorphina) aurifera* Schuster, 1958. Ent. Amer. (n.s.) 37: 44. ♂. Preocc. by and a syn. of *Photomorphus (Photomorphina) aurifera* Schuster, 1952.

\***auriventris** Schuster. Type locality not cited.

*Photomorphus (Photomorphina) auriventris* Schuster, 1958. Ent. Amer. (n.s.) 37: 40. ♂.

**bicolor** (Blake). Transf. from *Photopsis* Blake, p. 753 (*teste* Schuster, 1958, *loc. cit. supra*, p. 42).

\***californicus** Schuster. Calif.

*Photomorphus (Photomorphina) californica* Schuster, 1958. Ent. Amer. (n.s.) 37: 44. ♂.

**clandestinus** (Viereck). Transf. from *Odontophotopsis* Viereck, p. 756 (*teste* Schuster, 1958, *loc. cit. supra*, p. 45).

\***cobabi** Schuster. Ariz.; Mexico.

*Photomorphus (Photomorphina) cobabi* Schuster, 1958. Ent. Amer. (n.s.) 37: 41. ♂.

- \***cochisae** Schuster. Ariz.; Mexico.  
*Photomorphus (Photomorphina) cochisae* Schuster, 1958. Ent. Amer. (n.s.) 37: 43. ♂.
- \***coloradella** Schuster. Colo.  
*Photomorphus (Photomorphina) coloradella* Schuster, 1958. Ent. Amer. (n.s.) 37: 44. ♂.
- \***comobabi** Schuster. Ariz.; Mexico.  
*Photomorphus (Photomorphina) comobabi* Schuster, 1958. Ent. Amer. (n.s.) 37: 45. ♂.
- \***dichrous** Schuster. Ariz.  
*Photomorphus (Photomorphina) dichrous* Schuster, 1958. Ent. Amer. (n.s.) 37: 41. ♂.
- \***imperialoides** Schuster. Ariz.  
*Photomorphus (Photomorphina) imperialoides* Schuster, 1958. Ent. Amer. (n.s.) 37: 40. ♂.
- jason** (Fox). Transf. from *Photopsis* Blake, p. 754 (*teste* Schuster, 1958, *loc. cit. supra*, p. 41).
- \***juanita** Schuster. Tex.; Mexico.  
*Photomorphus (Photomorphina) juanita* Schuster, 1958. Ent. Amer. (n.s.) 37: 43. ♂. Preocc. by and a syn. of *Photomorphus (Photomorphina) juanita* Schuster, 1952.
- \***minus** Schuster. Ariz. (Wellton).  
*Photomorphus (Photomorphina) minima* Schuster, 1958. Ent. Amer. (n.s.) 37: 43. ♂.
- \***nanullus** Schuster. Ariz.  
*Photomorphus (Photomorphina) nanulla* Schuster, 1958. Ent. Amer. (n.s.) 37: 44. ♂.
- \***obscurus** Schuster. Calif.  
*Photomorphus (Photomorphina) obscura* Schuster, 1958. Ent. Amer. (n.s.) 37: 45. ♂.
- \***quadriangulatus** Schuster. Ariz.  
*Photomorphus (Photomorphina) quadriangulata* Schuster, 1958. Ent. Amer. (n.s.) 37: 42. ♂.
- sarpedon** (Fox). Transf. from *Odontophotopsis* Viereck, p. 757 (*teste* Schuster, 1958, *loc. cit. supra*, p. 43).
- spinci floridensis** (Schuster). Transf. from *Odontophotopsis* Viereck, p. 757.
- spinci spinci** (Bradley). Transf. from *Odontophotopsis* Viereck, p. 757 (*teste* Schuster, 1958, *loc. cit. supra*, p. 44).
- \***spinciformis** Schuster. Tex.  
*Photomorphus (Photomorphina) spinciformis* Schuster, 1958. Ent. Amer. (n.s.) 37: 44. ♂.
- subtenuis** (Viereck). Transf. from *Odontophotopsis* Viereck, p. 757 (*teste* Schuster, 1958, *loc. cit. supra*, p. 43).
- \***taeniatus parksi** Schuster. Tex.  
*Photomorphus (Photomorphina) taeniatus parksi* Schuster, 1958. Ent. Amer. (n.s.) 37: 42. ♂.
- \***taeniatus taeniatus** Schuster. Tex. Ariz.  
*Photomorphus (Photomorphina) taeniatus taeniatus* Schuster, 1958. Ent. Amer. (n.s.) 37: 44. ♂.
- thamyras** (Fox). Transf. from *Odontophotopsis* Viereck, p. 758 (*teste* Schuster, 1958, *loc. cit. supra*, p. 43).
- trunculus** (Viereck). Transf. from *Odontophotopsis* Viereck, p. 758 (*teste* Schuster, 1958, *loc. cit. supra*, p. 41).

\***vegas** Schuster. N. Mex.

*Photomorphus (Photomorphina) vegas* Schuster, 1958. Ent. Amer. (n.s.) 37: 42. ♂.

**SPHAEROPHTHALMA** subgenus **MICROMUTILLA** Ashmead

(= *Micromutilla* Ashmead of Catalog, in part, p. 752)

*Micromutilla* Ashmead is a weakly defined subgenus of *Sphaerophthalma* Blake, not a discrete genus (*teste* Schuster, 1958, *loc. cit. supra*, p. 9).

**acontia** (Fox). Transf. from **Photopsis** Blake, p. 753 (*teste* Schuster, 1958, *loc. cit. supra*, p. 16).

\***arizonae** Schuster. Ariz.

*Sphaerophthalma (Micromutilla) arizonae* Schuster, 1958. Ent. Amer. (n.s.) 37: 16. ♂.

**bellerophon** (Fox). Transf. from **Photopsis** Blake, p. 753 (*teste* Schuster, 1958, *loc. cit. supra*, p. 15).

**brachyptera** (Schuster). Transf. from **Photopsis** Blake, p. 753 (*teste* Schuster, 1958, *loc. cit. supra*, p. 18).

\***californiensis californiensis** Schuster. Calif.

*Sphaerophthalma (Micromutilla) californiense californiense* Schuster, 1958. Ent. Amer. (n.s.) 37: 18. ♂.

\***californiensis fuscatella** Schuster. Calif.

*Sphaerophthalma (Micromutilla) californiense fuscatella* Schuster, 1958. Ent. Amer. (n.s.) 37: 18. ♂.

**difficilis** (Baker). Transf. from **Photopsis** Blake, p. 754 (*teste* Ferguson, 1962. Univ. Calif. Pubs. Ent. 27: 82). Host: *Auplopus architectus metallicus* (Bks.).

**hyalina** (Blake). Transf. from **Photopsis** Blake, p. 754 (*teste* Schuster, 1958, *loc. cit. supra*, p. 19).

**juxta** (Blake). Kans. Transf. from **Photopsis** Blake, p. 754 (*teste* Schuster, 1958, *loc. cit. supra*, p. 14).

\***maricopella castanea** Schuster. Ariz. (Quijotoa).

*Sphaerophthalma (Micromutilla) maricopella castanea* Schuster, 1958. Ent. Amer. (n.s.) 37: 17. ♂.

\***maricopella maricopella** Schuster. Calif.

*Sphaerophthalma (Micromutilla) maricopella maricopella* Schuster, 1958. Ent. Amer. (n.s.) 37: 17. ♂.

**mesillensis** (Cockerell). Transf. from **Photopsis** Blake, p. 755 (*teste* Schuster, 1958, *loc. cit. supra*, p. 17).

**pallida** (Blake). Transf. from **Photopsis** Blake, p. 755 (*teste* Schuster, 1958, *loc. cit. supra*, p. 16).

\***pateli** Schuster. Ariz. (Hereford).

*Sphaerophthalma (Micromutilla) pateli* Schuster, 1958. Ent. Amer. (n.s.) 37: 15. ♂.

\***quijotoa quijotoa** Schuster. Ariz. Another subspecies, *quijotoa parrasia* Schuster, occurs in Baja California.

*Sphaerophthalma (Micromutilla) quijotoa quijotoa* Schuster, 1958. Ent. Amer. (n.s.) 37: 18. ♂.

\***reducta** Schuster. Ariz.

*Sphaerophthalma (Micromutilla) reducta* Schuster, 1958. Ent. Amer. (n.s.) 37: 18. ♂.

\***sabino** Schuster. Ariz.

*Sphaerophthalma (Micromutilla) sabino* Schuster, 1958. Ent. Amer. (n.s.) 37: 19. ♂.

\***sonora** Schuster. Ariz. (Tucson).

*Sphaerophthalma (Micromutilla) sonora* Schuster, 1958. Ent. Amer. (n.s.) 37: 16. ♂.

\**sublobata* Schuster. Idaho.

*Sphaerophthalma (Micromutilla) sublobata* Schuster, 1958. Ent. Amer. (n.s.) 37: 16. ♂.

\**uvaldella* Schuster. Tex.

*Sphaerophthalma (Micromutilla) uvaldella* Schuster, 1958. Ent. Amer. (n.s.) 37: 19. ♂.

\**yavapai* Schuster. Ariz.

*Sphaerophthalma (Micromutilla) yavapai* Schuster, 1958. Ent. Amer. (n.s.) 37: 19. ♂.

\**yumaella* Schuster. Ariz.

*Sphaerophthalma (Micromutilla) yumaella* Schuster, 1958. Ent. Amer. (n.s.) 37: 19. ♂.

## \*SPHAEROPHTHALMA subgenus PHYSETAPSIS Schuster

*Sphaerophthalma* subg. *Physetapsis* Schuster, 1958. Ent. Amer. (n.s.) 37: 9 (in key), 20.

Type: *Sphaerophthalma (Physetapsis) papaga* Schuster. Orig. desig.

Insert on p. 752 after *Micromutilla* Ashmead.

\**borealis* Schuster. Southwestern Canada.

*Sphaerophthalma (Physetapsis) borealis* Schuster, 1958. Ent. Amer. (n.s.) 37: 20. ♂.

\**ecarinata* Schuster. Calif.

*Sphaerophthalma (Physetapsis) ecarinata* Schuster, 1958. Ent. Amer. (n.s.) 37: 20. ♂.

\**papaga ephysetos* Schuster. Southwestern Ariz., southern Calif.

*Sphaerophthalma (Physetapsis) papaga ephysetos* Schuster, 1958. Ent. Amer. (n.s.) 37: 20. ♂.

\**papaga papaga* Schuster. Southeastern Ariz.

*Sphaerophthalma (Physetapsis) papaga papaga* Schuster, 1958. Ent. Amer. (n.s.) 37: 20, pl. 6, fig. 3. ♂.

\**subcarinata* Schuster. N. Mex.

*Sphaerophthalma (Physetapsis) subcarinata* Schuster, 1958. Ent. Amer. (n.s.) 37: 20. ♂.

## SPHAEROPHTHALMA subgenus SPHAEROPHTHALMA Blake

(= *Sphaerophthalma* Blake of Catalog, p. 752)

Reduced to subgeneric rank (*teste* Schuster, 1958, *loc. cit. supra*, p. 10).

*albiplumosa* Schuster. Reared from nest of solitary vespid in old clay cell of *Sceliphron*.

\**auripilis fasciventris* Schuster. Type locality not cited.

*Sphaerophthalma (Sphaerophthalma) auripilis fasciventris* Schuster, 1958. Ent. Amer. (n.s.) 37: 39. ♂.

*pennsylvanica pennsylvanica* (Lepeletier). Host: *Trypargilum clavatum* (Say) prepupa in cocoon in rotten stump.

## SPHAEROPHTHALMA subgenus PHOTOPSIS Blake

(= *Photopsis* Blake of Catalog, in part, pp. 753-756)

Reduced to subgeneric rank (*teste* Schuster, 1958, *loc. cit. supra*, p. 10).

Taxonomy and Biology: Ferguson, 1962. Univ. Calif. Pubs. Ent. 27: 1-92, 7 pls., 2 text figs.

*abdominalis* (Blake). Transf. to *Sphaerophthalma* subg. *Photopsioides* Schuster.

*abstrusa* (Baker). Transf. to *Sphaerophthalma* subg. *Photopsioides* Schuster as a subsp. of *amphion* (Fox).

- acontia* (Fox). Transf. to *Sphaerophthalma* subg. *Micromutilla* Ashmead, p. 752.
- albicincta albicincta* (Fox). N. Mex. and northern Ariz. to Utah and Oreg. *Photopsis albicincta* (Fox). Reduced to subsp. rank (*teste* Schuster, 1958, *loc. cit. supra*, p. 36).
- \**albicincta flavipes* Schuster. Southern Ariz.  
*Sphaerophthalma (Photopsis) albicincta flavipes* Schuster, 1958. Ent. Amer. (n.s.) 37: 36. ♂.
- \**albicincta piceiceps* Schuster. Tex.  
*Sphaerophthalma (Photopsis) albicincta piceiceps* Schuster, 1958. Ent. Amer. (n.s.) 37: 35. ♂.
- albopilosa* (Blake). Insert (*Sphaerophthalma*) after *Mutilla* in orig. cit.
- amphion* (Fox). Transf. to *Sphaerophthalma* subg. *Photopsioides* Schuster.
- \**angulifera* Schuster. Type locality not cited.  
*Sphaerophthalma (Photopsis) angulifera* Schuster, 1958. Ent. Amer. (n.s.) 37: 32. ♂.
- anthophora* Ashmead. Change spelling in specific heading and in orig. cit. from *anthophorae* to *anthophora*.
- \**arenicola* Schuster. Type locality not cited.  
*Sphaerophthalma (Photopsis) arenicola* Schuster, 1958, Ent. Amer. (n.s.) 37: 25. ♂.
- \**baboquivari* Schuster. Ariz.  
*Sphaerophthalma (Photopsis) baboquivari* Schuster, 1958. Ent. Amer. (n.s.) 37: 24, pl. 4, figs. 1-6. ♂.
- bellerophon* (Fox). Transf. to *Sphaerophthalma* subg. *Micromutilla* Ashmead, p. 752.
- bicolor* (Blake). Transf. to *Photomorphus* subg. *Photomorphina* Schuster.
- \**bisetosa* Schuster. N. Mex.  
*Sphaerophthalma (Photopsis) bisetosa* Schuster, 1958. Ent. Amer. (n.s.) 37: 36. ♂.
- blakeii* (Fox). Host: *Diadasia vallicola* Timb.  
Biology: Ferguson, 1962, *loc. cit. supra*, pp. 10-15, pls. 2, 3, 4, 5 and 7.
- brachyptera* Schuster. Transf. to *Sphaerophthalma* subg. *Micromutilla* Ashmead, p. 752.
- ceyx* (Fox). Syn. of *blakeii* (Fox).
- \**ceyxoides* Schuster. Ariz.  
*Sphaerophthalma (Photopsis) ceyxoides* Schuster, 1958. Ent. Amer. (n.s.) 37: 25. ♂.
- clara clara* (Cresson), changed status. Colo. to Wyo. and Idaho. This subsp. is transitional to *Sphaerophthalma* subg. *Physetapsis* Schuster.  
*Photopsis clara* (Cresson). Reduced to subsp. rank (*teste* Schuster, 1958, *loc. cit. supra*, p. 27).
- \**clara cleomella* Schuster. Mont. This subsp. is transitional to *Sphaerophthalma* subg. *Physetapsis* Schuster.  
*Sphaerophthalma (Photopsis) clara cleomella* Schuster, 1958. Ent. Amer. (n.s.) 37: 27. ♂.
- contracta* (Blake). Transf. to *Sphaerophthalma* subg. *Photopsioides* Schuster.
- danaus* (Blake). Kans., Tex.; Mexico. Transf. from *Odontophotopsis* Viereck, p. 756 (*teste* Schuster, 1958, *loc. cit. supra*, p. 24).
- \**dentifera* Schuster. S. Dak., Minn.  
*Sphaerophthalma (Photopsis)entifera* Schuster, 1958. Ent. Amer. (n.s.) 37: 24. ♂.
- difficilis* Baker. Transfer to *Sphaerophthalma* subg. *Micromutilla* Ashmead.

*edwardsii edwardsii* (Cresson), changed status. Oreg., Idaho.

*Photopsis edwardsii* (Cresson). Reduced to subsp. rank (*teste* Schuster, 1958, *loc. cit. supra*, p. 36).

\**edwardsii flammifera* Schuster. Calif.

*Sphaerophthalma* (*Photopsis*) *edwardsii flammifera* Schuster, 1958. Ent. Amer. (n.s.) 37: 36. ♂.

\**facilis facilis* (Cameron). Ariz.; Mexico.

*Sphaerophthalma* (!) *facilis* Cameron, 1896. Biol. Cent.-Amer., Hym. 2, p. 392. ♂. Reduced to subsp. rank (*teste* Schuster, 1958, *loc. cit. supra*, p. 26).

*Photopsis hubbardii* (Fox). Syn. by Schuster, 1958, *loc. cit. supra*, p. 26.

\**facilis rubriventris* Schuster. Tex.

*Sphaerophthalma* (*Photopsis*) *facilis rubriventris* Schuster, 1958. Ent. Amer. (n.s.) 37: 26. ♂.

\**ferruginopsis* Schuster. Ariz., Calif.

*Sphaerophthalma* (*Photopsis*) *ferruginopsis* Schuster, 1958. Ent. Amer. (n.s.) 37: 29. ♂.

\**fuscipes* Schuster. Ariz. This sp. is transitional to *Sphaerophthalma* subg. *Physetapsis* Schuster.

*Sphaerophthalma* (*Photopsis*) *fuscipes* Schuster, 1958. Ent. Amer. (n.s.) 37: 21. ♂.

\**helicaon diegueno* Schuster. Ariz.

*Sphaerophthalma* (*Photopsis*) *helicaon diegueno* Schuster, 1958. Ent. Amer. (n.s.) 37: 35. ♂.

*helicaon helicaon* (Fox), changed status.

*Photopsis helicaon* (Fox). Reduced to subsp. rank (*teste* Schuster, 1958, *loc. cit. supra*, p. 35).

*helicaon lingulatus* (Viereck), changed status.

*Photopsis lingulata* Viereck. Reduced to subsp. rank (*teste* Schuster, 1958, *loc. cit. supra*, p. 26).

*hubbardii* (Fox). Syn. of *facilis facilis* (Cameron).

*hyalina* (Blake). Transf. to *Sphaerophthalma* subg. *Micromutilla* Ashmead, p. 752.

*imperialiformis imperialiformis* (Viereck), changed status. Tex. to Kans. and Colo.

*Photopsis imperialiformis* (Viereck). Reduced to subsp. rank (*teste* Schuster, 1958, *loc. cit. supra*, p. 34).

\**imperialiformis maricopae* Schuster. Ariz. to Wash.

*Sphaerophthalma* (*Photopsis*) *imperialiformis maricopae* Schuster, 1958. Ent. Amer. (n.s.) 37: 34. ♂.

*indigens* (Baker). Calif.

*ingenua* (Baker). Syn. of *orestes* (Fox).

*jason* (Fox). Transf. to *Photomorphus* subg. *Photomorphina* Schuster.

*juxta* (Blake). Transf. to *Sphaerophthalma* subg. *Micromutilla* Ashmead, p. 752.

*lingulata* (Viereck). A subsp. of *helicaon* (Fox).

\**luiseno* Schuster. Calif.

*Sphaerophthalma* (*Photopsis*) *luiseno* Schuster, 1958. Ent. Amer. (n.s.) 37: 23. ♂.

\**megagnathos auriferus* Schuster. Calif.

*Sphaerophthalma* (*Photopsis*) *megagnathos auriferus* Schuster, 1958. Ent. Amer. (n.s.) 37: 36. ♂.

\**megagnathos megagnathos* Schuster. Calif.

*Sphaerophthalma* (*Photopsis*) *megagnathos megagnathos* Schuster, 1958. Ent. Amer. (n.s.) 37: 36. ♂.

- melanderi* (Baker). Transf. to *Sphaerophthalma* subg. *Photopsioides* Schuster as a subsp. of *uro* (Blake).
- mesillensis* Cockerell. Transf. to *Sphaerophthalma* subg. *Micromutilla* Ashmead, p. 752.
- \**militaris* Schuster. Ariz., Calif.  
*Sphaerophthalma (Photopsis) militaris* Schuster, 1958. Ent. Amer. (n.s.) 37: 27, pl. 5, fig. 2. ♂.
- \**neomexicana* Schuster. N. Mex.  
*Sphaerophthalma (Photopsis) neomexicana* Schuster, 1958. Ent. Amer. (n.s.) 37: 30. ♂.
- \**noctivaga infusca* Schuster. Ariz.  
*Sphaerophthalma (Photopsis) noctivaga infusca* Schuster, 1958. Ent. Amer. (n.s.) 37: 32. ♂.
- noctivaga noctivaga* (Melander), changed status. Tex. to Kans.  
*Photopsis noctivaga* (Melander). Reduced to subsp. rank (*teste* Schuster, 1958, *loc. cit. supra*, p. 32).
- nokomis nokomis* (Blake), changed status. Ariz.  
*Photopsis nokomis* (Blake). Reduced to subsp. rank (*teste* Schuster, 1958, *loc. cit. supra*, p. 35).
- \**nokomis ruficeps* Schuster. Ariz.  
*Sphaerophthalma (Photopsis) nokomis ruficeps* Schuster, 1958. Ent. Amer. (n.s.) 37: 35. ♂.
- nudata* (Baker). Transf. to *Sphaerophthalma* subg. *Photopsioides* Schuster as a syn. of *amphion* *amphion* (Fox).
- \**ordae* Schuster. Tex.  
*Sphaerophthalma (Photopsis) ordae* Schuster, 1958. Ent. Amer. (n.s.) 37: 23. ♂.
- orestes* (Fox). Wash. to Baja California. Hosts: *Anthidium c. collectum* Huard, *Euodynerus boscai auranum* (Cam.), *Tachysphex tenuipunctus* Fox.  
*Photopsis pattersonae* Melander (syn. by Schuster, 1958, *loc. cit. supra*, p. 30).  
*Photopsis uniformis* Baker (syn. by Schuster, 1958, *loc. cit. supra*, p. 30).  
*Photopsis pedata* Baker (syn. by Schuster, 1958, *loc. cit. supra*, p. 30).  
*Photopsis ingenua* Baker (syn. by Schuster, 1958, *loc. cit. supra*, p. 30).  
*Photopsis salmani* Mickel (syn. by Ferguson, 1962, *loc. cit. supra*, p. 10).  
 ?\**Sphaerophthalma (Photopsis) salmani fresnoensis* Schuster, 1958. Ent. Amer. (n.s.) 37: 30. ♂. Presumed a syn. because Ferguson placed typical *salmani* as a syn. of *orestes*.  
 ?\**Sphaerophthalma (Photopsis) salmani oregana* Schuster, 1958. Ent. Amer. (n.s.) 37: 31. ♂. Presumed a syn. because Ferguson placed typical *salmani* as a syn. of *orestes*.  
 Biology: Ferguson, 1962, *loc. cit. supra*, pp. 6-10, pls. 1, 6, tab. 1.
- palamedes* (Fox). Syn. of *pluto* (Fox).
- pallida* (Blake). Transf. to *Sphaerophthalma* subg. *Micromutilla* Ashmead, p. 752.
- \**pallidipes gila* Schuster. Type locality not cited—Ariz. (?).  
*Sphaerophthalma (Photopsis) pallidipes gila* Schuster, 1958. Ent. Amer. (n.s.) 37: 28. ♂.
- \**pallidipes pallidipes* Schuster. Type locality not cited.  
*Sphaerophthalma (Photopsis) pallidipes pallidipes* Schuster, 1958. Ent. Amer. (n.s.) 37: 27. ♂.
- \**parkeri* Schuster. Ariz.  
*Sphaerophthalma (Photopsis) parkeri* Schuster, 1958. Ent. Amer. (n.s.) 37: 28. ♂.
- pattersonae* (Melander). Syn. of *orestes* (Fox).

*pedata* (Baker). Syn. of *orestes* (Fox).

\**piceogaster* Schuster. Type locality not cited.

*Sphaerophthalma* (*Photopsis*) *piceogaster* Schuster, 1958. Ent. Amer. (n.s.) 37: 27. ♂.

\**pinalea pinalea* Schuster. Ariz.

*Sphaerophthalma* (*Photopsis*) *pinalea pinalea* Schuster, 1958. Ent. Amer. (n.s.) 37: 32. ♂.

\**pinalea texanella* Schuster. Tex. to N. Dak.

*Sphaerophthalma* (*Photopsis*) *pinalea texanella* Schuster, 1957. Ent. Amer. (n.s.) 37: 32. ♂.

\**pinales* Schuster. Ariz.

*Sphaerophthalma* (*Photopsis*) *pinales* Schuster, 1958. Ent. Amer. (n.s.) 37: 36. ♂.

*pluto* (Fox).

*Photopsis palamedes* (Fox) (syn. by Schuster, 1958, *loc. cit. supra*, p. 31).

\**rustica ocellaria* Schuster. Calif.

*Sphaerophthalma* (*Photopsis*) *rustica ocellaria* Schuster, 1958. Ent. Amer. (n.s.) 37: 32. ♂.

*rustica rustica* (Blake), changed status.

*Photopsis rustica* (Blake). Reduced to subsp. rank (*teste* Schuster, 1958, *loc. cit. supra*, p. 32).

*salmani* (Mickel). Syn. of *orestes* (Fox).

\**salmani fresnoensis* Schuster. Syn. (?) of *orestes* (Fox).

\**salmani oregana* Schuster. Syn. (?) of *orestes* (Fox).

\**scudderi* Schuster. Ariz.

*Sphaerophthalma* (*Photopsis*) *scudderi* Schuster, 1958. Ent. Amer. (n.s.) 37: 23. ♂.

\**similis* Schuster. Type locality not cited.

*Sphaerophthalma* (*Photopsis*) *similis* Schuster, 1958. Ent. Amer. (n.s.) 37: 30. ♂.

\**spinifera* Schuster. Kans.

*Sphaerophthalma* (*Photopsis*) *spinifera* Schuster, 1958. Ent. Amer. (n.s.) 37: 23. ♂.

\**tetracuspis* Schuster. Type locality not cited.

*Sphaerophthalma* (*Photopsis*) *tetracuspis* Schuster, 1958. Ent. Amer. (n.s.) 37: 31. ♂.

\**tuberculifera* Schuster. Type locality not cited.

*Sphaerophthalma* (*Photopsis*) *tuberculifera* Schuster, 1958. Ent. Amer. (n.s.) 37: 25. ♂.

*unicolor* (Cresson). U. S. west of Rocky Mts.; Mexico (Baja California del Norte). Hosts: *Anthidium c. collectum* Huard, *Callanthidium illustre* (Cr.), *Ashmeadiella c. californica* (Ashm.), *Anthophora abruptella* Ckll., *A. bomboideus neomexicana* Ckll., *A. linsleyi* Timb., ?*A. montana* Cr., *A. occidentalis* Cr., *Diadasia bituberculata* (Cr.), *Melissodes robustior* Ckll., *Xeromelecta californica* (Ashm.).

Biology: Ferguson, 1962, *loc. cit. supra*, pp. 15-22, pls. 3, 5, and 7.

*uniformis* (Baker). Syn. of *orestes* (Fox).

*uro* (Blake). Transf. to *Sphaerophthalma* subg. *Photopsioides* Schuster.

\***SPHAEROPHTHALMA subgenus PHOTOPSIOIDES Schuster**

*Sphaerophthalma* subg. *Photopsioides* Schuster, 1958. Ent. Amer. (n.s.) 37: 10 (in key), 36.

Type: *Agama uro* Blake. Orig. desig.

Place after *Sphaerophthalma* subg. *Photopsis* Blake, p. 756.



- abdominalis** (Blake). Transf. from **Photopsis** Blake, p. 753 (*teste* Schuster, 1958. Ent. Amer. (n.s.) 37: 37).
- amphion abstrusa** (Baker). Transf. from **Photopsis** Blake, p. 753 and reduced to subsp. rank (*teste* Schuster, 1958, *loc. cit. supra*, p. 38).
- amphion amphion** (Fox), changed status. Transf. from **Photopsis** Blake, p. 753 and reduced to subsp. rank (*teste* Schuster, 1958, *loc. cit. supra*, p. 38).
- Photopsis nudata** Baker (syn. by Schuster, 1958, *loc. cit. supra*, p. 38).
- contracta** (Blake). Transf. from **Photopsis** Blake, p. 754 (*teste* Schuster, 1958, *loc. cit. supra*, p. 37).
- uro melanderi** (Baker), changed status. Transf. from **Photopsis** Blake, p. 755 and reduced to subsp. rank (*teste* Schuster, 1958, *loc. cit. supra*, p. 38).
- \***uro stenognatha** Schuster. N. Mex., Ariz.  
**Sphaerophthalma (Photopsioides) uro stenognatha** Schuster, 1958. Ent. Amer. (n.s.) 37: 38. ♂.
- uro uro** (Blake), changed status. Transf. from **Photopsis** Blake, p. 756 and reduced to subsp. rank (*teste* Schuster, 1958, *loc. cit. supra*, p. 38).  
 Hosts: *Dianthidium curvatum sayi* Ckll., *Trypargilum tridentatum* (Pack.).

ODONTOPHOTOPSIS subgenus ODONTOPHOTOPSIS Viereck

(= *Odontophotopsis* Viereck of Catalog, pp. 756–758)

- Tetraphotopsis** Ashmead, p. 758. Syn. by Schuster, 1958, *loc. cit. supra*, p. 54.  
 Reduced to subgeneric rank (*teste* Schuster, 1958, *loc. cit. supra*, pp. 8 (in key), 46).
- acmaea** Viereck. A subsp. of **adonis** (Fox).
- adonis acmaea** Viereck, changed status.  
**Odontophotopsis acmaea** Viereck. Reduced to subsp. rank (*teste* Schuster, 1958, *loc. cit. supra*, p. 54).
- adonis adonis** (Fox), changed status.  
**Odontophotopsis adonis** (Fox). Reduced to subsp. rank (*teste* Schuster, 1958, *loc. cit. supra*, p. 54).
- alamonis** Viereck. Transf. to **Dilophotopsis** Schuster as a syn. of **concolor concolor** (Cresson).
- alemon** (Fox).  
**Odontophotopsis trita** (Melander) (syn. by Schuster, 1958, *loc. cit. supra*, p. 56).  
**Odontophotopsis crucis** Viereck (syn. by Schuster, 1958, *loc. cit. supra*, p. 56).
- \***anomala** Schuster. Tex.  
**Odontophotopsis (Odontophotopsis) anomala** Schuster, 1958. Ent. Amer. (n.s.) 37: 60. ♂.
- \***apacheorum apacheorum** Schuster. Tex.  
**Odontophotopsis (Odontophotopsis) apacheorum (!) apacheorum (!)** Schuster, 1958. Ent. Amer. (n.s.) 37: 55. ♂.
- \***apacheorum rostrata** Schuster. Ariz.  
**Odontophotopsis (Odontophotopsis) apacheorum (!) rostratus** Schuster, 1958. Ent. Amer. (n.s.) 37: 55. ♂.
- \***armata** Schuster. Type locality not cited.  
**Odontophotopsis (Odontophotopsis) armata** Schuster, 1958. Ent. Amer. (n.s.) 37: 60. ♂.
- atripes** Mickel. Syn. of **pudica** (Melander).
- aulus** (Blake). A subsp. of **tapajos** (Blake).

\**bequaertii* Schuster. Tex.

*Odontophotopsis (Odontophotopsis) bequaertii* Schuster, 1958. Ent. Amer. (n.s.) 37: 52. ♂.

\**braccata* Schuster. Type locality not cited.

*Odontophotopsis (Odontophotopsis) braccatus* Schuster, Ent. Amer. (n.s.) 37: 54. ♂.

*brevicornis* (Fox). Syn. of *melicausa* (Blake).

*clandestina* Viereck. Transf. to *Photomorphus* subg. *Photomorphina* Schuster.

\**clypeata* Schuster. Ariz.

*Odontophotopsis (Odontophotopsis) clypeatus* Schuster, 1958. Ent. Amer. (n.s.) 37: 59. ♂.

*concolor* (Cresson). Transf. to *Dilophotopsis* Schuster.

\**conifera* Schuster. Ariz.

*Odontophotopsis (Odontophotopsis) coniferus* Schuster, 1958. Ent. Amer. (n.s.) 37: 48. ♂.

*cookii* Baker.

Biology: Ferguson, 1963. Pan-Pacific Ent. 39: 65-66.

*crucis* Viereck. Syn. of *alemon* (Fox).

*danaus* (Blake). Transf. to *Sphaerophthalma* subg. *Photopsis* Blake, p. 754.

\**edentata distans* Schuster. Type locality not cited.

*Odontophotopsis (Odontophotopsis) edentata distans* Schuster, 1958. Ent. Amer. (n.s.) 37: 53. ♂.

\**edentata edentata* Schuster. Type locality not cited.

*Odontophotopsis (Odontophotopsis) edentata edentata* Schuster, 1958. Ent. Amer. (n.s.) 37: 53. ♂.

*fallax* Viereck.

*Odontophotopsis ocellata* Baker, n. syn. Schuster, 1958, *loc. cit. supra*, p. 57, placed *fallax* as a syn. of *ocellata*, but the former antedates the latter.

\**grandiceps* Schuster. Type locality not cited.

*Odontophotopsis (Odontophotopsis) grandiceps* Schuster, 1958. Ent. Amer. (n.s.) 37: 53. ♂.

\**hexadonta* Schuster. Type locality not cited.

*Odontophotopsis (Odontophotopsis) hexadontus* Schuster, 1958. Ent. Amer. (n.s.) 37: 51. ♂.

*hubbardi* Ashmead. Syn. of *venusta* (Blake).

\**inconspicua brunnea* Schuster. Type locality not cited.

*Odontophotopsis (Odontophotopsis) inconspicua brunnea* Schuster, 1958. Ent. Amer. (n.s.) 37: 54. ♂.

*inconspicua inconspicua* (Blake), changed status.

*Odontophotopsis inconspicua* (Blake). Reduced to subsp. rank (*teste* Schuster, 1958, *loc. cit. supra*, p. 54).

*indotata* Viereck. Syn. of *melicausa westcottii* (Melandar).

\**lamellifera* Schuster. Ariz.

*Odontophotopsis (Odontophotopsis) lamellifera* Schuster, 1958. Ent. Amer. (n.s.) 37: 56. ♂.

*melicausa melicausa* (Blake), changed status.

*Odontophotopsis melicausa* Blake. Reduced to subsp. rank (*teste* Schuster, 1958, *loc. cit. supra*, p. 58).

*Odontophotopsis brevicornis* (Fox) (syn. by Schuster, 1958, *loc. cit. supra*, p. 58).

*Odontophotopsis mellicornis* Baker (syn. by Schuster, 1958, *loc. cit. supra*, p. 58).

*Odontophotopsis obliqua* Viereck (syn. by Schuster, 1958, *loc. cit. supra*, p. 58).

\**melicausa piceipes* Schuster. Mont.

*Odontophotopsis (Odontophotopsis) mellicausa (!) piceipes* Schuster, 1958. Ent. Amer. (n.s.) 37: 58. ♂.

*melicausa westcottii* (Melander), changed status.

*Odontophotopsis westcottii* (Melander). Reduced to subsp. rank (*teste* Schuster, 1958, *loc. cit. supra*, p. 59).

*Odontophotopsis indotata* Viereck (syn. by Schuster, 1958, *loc. cit. supra*, p. 59).

*mellicornis* Baker. Syn. of *melicausa* (Blake).

*obliqua* Viereck. Syn. of *melicausa* (Blake).

*ocellata* Baker. Syn. of *fallax* Viereck.

\**parksiana* Schuster. Tex.

*Odontophotopsis (Odontophotopsis) parksiana* Schuster, 1958. Ent. Amer. (n.s.) 37: 57. ♂.

\**parva* Schuster. Type locality not cited.

*Odontophotopsis (Odontophotopsis) parva* Schuster, 1958. Ent. Amer. (n.s.) 37: 55. ♂.

*pudica* (Melander).

*Odontophotopsis atripes* Mickel (syn. by Schuster, 1958, *loc. cit. supra*, p. 57).

\**quadridentata* Schuster. Type locality not cited.

*Odontophotopsis (Odontophotopsis) quadridentata* Schuster, 1958. Ent. Amer. (n.s.) 37: 51. ♂.

*sarpedon* (Fox). Transf. to *Photomorphus* subg. *Photomorphina* Schuster.

*spinci floridensis* (Schuster). Transf. to *Photomorphus* subg. *Photomorphina* Schuster.

*spinci spinci* (Bradley). Transf. to *Photomorphus* subg. *Photomorphina* Schuster.

*subtenuis* Viereck. Transf. to *Photomorphus* subg. *Photomorphina* Schuster.

*tapajos aulus* (Blake), changed status.

*Odontophotopsis aulus* (Blake). Reduced to subsp. rank (*teste* Schuster, 1958, *loc. cit. supra*, p. 53).

*tapajos tapajos* (Blake), changed status.

*Odontophotopsis tapajos* (Blake). Reduced to subsp. rank (*teste* Schuster, 1958, *loc. cit. supra*, p. 53).

\**territa obscura* Schuster. Ariz.

*Odontophotopsis (Odontophotopsis) territa obscura* Schuster, 1958. Ent. Amer. (n.s.) 37: 59. ♂.

*territa territa* (Cockerell), changed status.

*Odontophotopsis territa* (Cockerell). Reduced to subsp. rank (*teste* Schuster, 1958, *loc. cit. supra*, p. 59).

*thamyas* (Fox). Transf. to *Photomorphus* subg. *Photomorphina* Schuster.

*trita* (Melander). Syn. of *alemon* (Fox).

*truncula* Viereck. Transf. to *Photomorphus* subg. *Photomorphina* Schuster.

\**unicornis* Schuster. Ariz.

*Odontophotopsis (Odontophotopsis) unicornis* Schuster, 1958. Ent. Amer. (n.s.) 37: 52. ♂.

*venusta* (Blake).

*Tetraphotopsis hubbardi* Ashmead (syn. by Schuster, 1958, *loc. cit. supra*, p. 54).

*westcottii* (Melander). A subsp. of *melicausa* (Blake).

**\*ODONTOPHOTOPSIS subgenus PERIPHOTOPSIS Schuster**

*Odontophotopsis* subg. *Periphotopsis* Schuster, 1958. Ent. Amer. (n.s.) 37: 8 (in key), 60.

Type: *Odontophotopsis (Periphotopsis) mamatus* Schuster.  
By monotypy and orig. desig.

Place after *Odontophotopsis* Viereck, p. 758.

\**mamata* Schuster. Ariz.

*Odontophotopsis (Periphotopsis) mamatus* Schuster, 1958. Ent. Amer. (n.s.) 37: 60. ♂.

**Genus *Tetraphotopsis* Ashmead, p. 758**

A synonym of *Odontophotopsis* subg. *Odontophotopsis* Viereck.

**\*Genus ACROPHOTOPSIS Schuster**

*Acrophotopsis* Schuster, 1958. Ent. Amer. (n.s.) 37: 4 (in key), 61.

Type: *Acrophotopsis eurygnathus* Schuster. Orig. desig.

Insert on p. 758 after *Morsyma* Fox.

\**eurygnathus* Schuster. Southern Ariz.

*Acrophotopsis eurygnathus* Schuster, 1958. Ent. Amer. (n.s.) 37: 10 (in key), 65, pl. 1, figs. 1, 2. ♂.

**\*Genus DILOPHOTOPSIS Schuster**

*Dilophotopsis* Schuster, 1958. Ent. Amer. (n.s.) 37: 5 (in key), 71.

Type: *Mutilla concolor* Cresson. Orig. desig.

Insert on p. 758 after *Acorphotopsis* Schuster.

*concolor concolor* (Cresson), changed status. Kans. to Colo. and Wyo., Tex., N. Mex., eastern Ariz.; Mexico (Zacatecas, Durango, Jalisco).

*Odontophotopsis concolor* (Cresson). Transf. from *Odontophotopsis* Viereck, p. 756 and reduced to subsp. rank (*teste* Schuster, 1958, *loc. cit. supra*, p. 84).

*Odontophotopsis alamonis* Viereck. Syn. by Schuster, 1958, *loc. cit. supra*, p. 84.

\**concolor laredo* Schuster. Tex. (Winterhaven, Laredo, Cotulla).

*Dilophotopsis concolor laredo* Schuster, 1958. Ent. Amer. (n.s.) 37: 84 (in key), 86. ♂.

\**concolor sonorensis* Schuster. Southern Ariz. and Calif.; Mexico (Baja California).

*Dilophotopsis concolor sonorensis* Schuster, 1958. Ent. Amer. (n.s.) 37: 84 (in key), 88. ♂.

\**concolor utahensis* Schuster. Mont., Utah, western Colo., Nev., northeastern Calif.

*Dilophotopsis concolor utahensis* Schuster, 1958. Ent. Amer. (n.s.) 37: 84 (in key), 87. ♂.

\**stenognatha* Schuster. Ariz. (Tucson).

*Dilophotopsis stenognatha* Schuster, 1958. Ent. Amer. (n.s.) 37: 11 (in key), 74. ♂.

Taxonomy: Mickel, 1963. Pan-Pacific Ent. 39: 184 (♀).

**\*Genus ACANTHOPHOTOPSIS Schuster**

*Acanthophotopsis* Schuster, 1958. Ent. Amer. (n.s.) 37: 5 (in key), 88.

Type: *Acanthophotopsis falciformis* Schuster. Orig. desig.

Insert on p. 758 after *Dilophotopsis* Schuster.

\**bequaertii* Schuster. Ariz. (Hereford).

*Acanthophotopsis bequaertii* Schuster, 1958. Ent. Amer. (n.s.) 37: 12 (in key), 101. ♂.

\**bifurca* Schuster. Tex. (Val Verde Co., Winterhaven).

*Acanthophotopsis bifurca* Schuster, 1958. Ent. Amer. (n.s.) 37: 13 (in key), 98, pl. 3, fig. 3. ♂.

\**dorophora* Schuster. Ariz. (Tucson, Yuma).

*Acanthophotopsis dorophora* Schuster, 1958. Ent. Amer. (n.s.) 37: 13 (in key), 104, pl. 2, fig. 1, pl. 3, fig. 2. ♂.

\**evansii* Schuster. Tex. (Alpine and Chisos Mts.); Mexico (Durango).

*Acanthophotopsis evansii* Schuster, 1958. Ent. Amer. (n.s.) 37: 12 (in key), 93, pl. 3, fig. 1. ♂.

\**falciformis falciformis* Schuster. Calif. (Palm Springs); Mexico (Zacatecas).

*Acanthophotopsis falciformis falciformis* Schuster, 1958. Ent. Amer. (n.s.) 37: 13 (in key), 108, pl. 2, figs. 2, 3. ♂.

\**falciformis furcisterna* Schuster. Ariz. (Tucson, Phoenix, Ajo).

*Acanthophotopsis falciformis furcisterna* Schuster, 1958. Ent. Amer. (n.s.) 37: 14 (in key), 111. ♂.

#### Genus PSEUDOMETHOCA Ashmead, pp. 758-761

*contumax* (Cresson). Mexico.

\**Mutilla microphthalma* Gerstaecker, 1874. Arch. Naturges. 40: 64. ♂.  
Taxonomy: Mickel, 1935. Amer. Ent. Soc. Trans. 61: 393.

*frigida frigida* (Smith). Probable hosts: *Lasioglossum (Dialictus) inconspicuum* (Sm.), *L. (D.) zephyrum* (Sm.), *L. (D.) rohweri* (Ellis), *L. (D.) versatum* (Robt.) and *Augochlorella striata* (Prov.).  
Biology: Lin, N., 1964. Ins. Sociaux 11: 187-192.

#### Genus DASYMUTILLA Ashmead, pp. 761-770

*asteria* Mickel. Host: *Microbembex nigrifrons* (Prov.) (teste J. D. Haddock, in litt.).

*biguttata* (Cockerell). Ark.

*creon* (Blake). Ark.

*dugei* (Cockerell and Casad). Host: *Anthophora occidentalis* Cr.

*gloriosa* (Saussure). Host: *Microbembex nigrifrons* (Prov.) (teste J. D. Haddock, in litt.).

*leda* (Blake). N. Mex.

*macilenta* (Blake). Delete Ala. from distribution.

*nigripes* (Fabricius). B. C. Host: *Cerceris flavofasciata* H. S. Smith.  
Biology: Krombein, 1959. Ent. Soc. Wash. Proc. 61: 198.

*pyrrhus* (Fox). Host: *Bembicini* sp.

Biology: Krombein, 1964. Amer. Mus. Novitates 2201: 2-4, fig. 1.

*vesta vesta* (Cresson). B. C.

#### Genus LOMACHAETA Mickel, p. 770

*variegata* Mickel. Hosts: *Solierella plenoculoides similis* (Brid.), *S. blaisdelli* (Brid.), nesting in stems of *Eriogonum elatum*.  
Biology: Parker, 1962. Pan-Pacific Ent. 38: 116.

#### \*Genus SMICROMUTILLA Mickel

*Smicromutilla* Mickel, 1964. Pan-Pacific Ent. 40: 108.

Type: *Smicromutilla powelli* Mickel. Orig. desig. and by monotypy.

Insert on p. 770 after *Lomachaeta* Mickel.

\**powelli* Mickel. Calif. (San Luis Obispo Co.). Host: ? *Xylocelia occidentalis* Fox.

*Smicromutilla powelli* Mickel 1964. Pan-Pacific Ent. 40; 108, 1 fig. ♂, ♀.

## TIMULLA subgenus TIMULLA Ashmead, pp. 770-772

**grotei** (Blake). Mexico (Jalisco, Guanajuato).

\**Mutilla fulviventris* Gerstaecker, 1874. Arch. Naturges. 40: 323. ♂.

Taxonomy: Mickel, 1937. Ent. Amer. 17: 78.

**oajaca** (Blake). Mexico (Morelos, Jalisco, Colima).

\**Mutilla ardens* Gerstaecker, 1874. Arch. Naturges. 40: 323. ♂.

\**Mutilla mazatlanae* Cameron, 1894. Biol. Cent.-Amer. Hym., v. 2, p. 294.

♂.

Taxonomy: Mickel, 1938. Roy. Ent. Soc. London Trans. 87: 641.

Biology: Linsley, 1960. Pan-Pacific Ent. 36: 36 (mating behavior).

**ocellaria rufidorsa** Mickel. Ark.

## EPHUTA subgenus EPHUTA Say, pp. 772-773

Taxonomy: Schuster, 1957. N. Y. Ent. Soc. Jour. 64: 7-84 (Part II of revis. treating Species Group Grisea).

This revision reduces **Ephuta** of the Catalog to subgeneric rank.

**albiceps** Schuster.

Taxonomy: Schuster, 1957, *loc. cit. supra*, p. 75. ♀.

**argenteiceps** Schuster.

Taxonomy: Schuster, 1957, *loc. cit. supra*, p. 16. ♂, ♀.

**auricapitis** Schuster. Possibly the opposite sex of **ecarinata** *ecarinata* Schuster.

Taxonomy: Schuster, 1957, *loc. cit. supra*, p. 76. ♀.

**baboquivari** Schuster.

Taxonomy: Schuster, 1957, *loc. cit. supra*, p. 79. ♀.

**cephalotes** Schuster. The opposite sex is possibly **minuta** Schuster.

Taxonomy: Schuster, 1957, *loc. cit. supra*, p. 68. ♂.

**coloradella** Schuster. Possibly the opposite sex of **grisea** Bradley.

Taxonomy: Schuster, 1957, *loc. cit. supra*, p. 73. ♀.

**conchate** Mickel.

Taxonomy: Schuster, 1957, *loc. cit. supra*, p. 21. ♀, ♂.

**ecarinata** *ecarinata* Schuster. The opposite sex is possibly **sudatrix** (Melander) or **auricapitis** Schuster.

Taxonomy: Schuster, 1957, *loc. cit. supra*, p. 49. ♂.

**ecarinata neomexicana** Schuster.

Taxonomy: Schuster, 1957, *loc. cit. supra*, p. 52. ♂.

**ecarinata pima** Schuster.

Taxonomy: Schuster, 1957, *loc. cit. supra*, p. 51. ♂.

**floridana dietrichi** Schuster.

Taxonomy: Schuster, 1957, *loc. cit. supra*, p. 40. ♀.

**floridana floridana** Schuster.

Taxonomy: Schuster, 1957, *loc. cit. supra*, p. 34. ♂, ♀.

**grisea fuscosericea** Schuster.

Taxonomy: Schuster, 1957, *loc. cit. supra*, p. 14. ♂.

**grisea grisea** Bradley. The opposite sex is possibly **coloradella** Schuster.

Taxonomy: Schuster, 1957, *loc. cit. supra*, p. 13. ♂.

**margueritae margueritae** Schuster.

Taxonomy: Schuster, 1957, *loc. cit. supra*, p. 56. ♂, ♀.

**margueritae xanthocephala** Schuster.

Taxonomy: Schuster, 1957, *loc. cit. supra*, p. 63. ♂, ♀.

**minuta** Schuster. Possibly opposite sex of **cephalotes** Schuster.

**pauquilla pauquilla** Bradley. Host: *Dipogon s. sayi* Bks. (*teste* H. E. Evans, *in litt.*).

**psephenophila** Schuster. The opposite sex is possibly *tentativa* Schuster.

Taxonomy: Schuster, 1957, *loc. cit. supra*, p. 44. ♂.

**rufisquamis** (André). The opposite sex is possibly **tumacacori** Schuster.

Taxonomy: Schuster, 1957, *loc. cit. supra*, p. 65. ♂.

**scrupea** Say.

Taxonomy: Schuster, 1957, *loc. cit. supra*, p. 26. ♀. ♂.

**sudatrix** (Melander). Possibly the opposite sex of **ecarinata** *ecarinata* Schuster.

Taxonomy: Schuster, 1957, *loc. cit. supra*, p. 54. ♀.

**tegulicia** Bradley. Possibly a syn. or subsp. of **idiasta** (Cameron) of Mexico.

Taxonomy: Schuster, 1957, *loc. cit. supra*, p. 47. ♂.

**tentativa** Schuster. Possibly the opposite sex of **psephenophila** Schuster.

Taxonomy: Schuster, 1957, *loc. cit. supra*, p. 42. ♀.

**tumacacori** Schuster. Possibly the opposite sex of **rufisquamis** (André).

Taxonomy: Schuster, 1957, *loc. cit. supra*, p. 82. ♀.

#### \*EPHUTA subgenus XENOCHILE Schuster

*Ephuta* subg. *Xenochile* Schuster, 1957. N. Y. Ent. Soc. Jour. 64: 8.

Type: *Ephuta (Xenochile) krombeini* Schuster. Monotypic and by orig. desig.

Place after subgenus *Ephuta* Say, p. 773.

\**krombeini* Schuster. Ariz. (Ramsey Canyon in Huachuca Mts.).

*Ephuta (Xenochile) krombeini* Schuster, 1957. N. Y. Ent. Soc. Jour. 64: 9. ♂.

## Family SCOLIIDAE

### SCOLIA subgenus SCOLIA Fabricius

The typical subgenus is restricted to the Palaearctic Region (*teste* Betrem and Bradley, 1964. Zool. Meded. 40: 90).

### SCOLIA subgenus DISCOLIA Saussure

(= *Scolia* subgenus *Scolia* Fabricius of Catalog, pp. 774-775)

Transfer citations for *Scolia*, *Lacosi*, and *Lisoca* to the typical subgenus above. Change citation for *Discolia* as follows:

*Scolia* subg. *Discolia* Saussure, 1863. Soc. Ent. France Ann. (4) 3: 18.

Type: *Scolia (Discolia) nobilitata* Fabricius. Desig. by Betrem and Bradley, 1964.

Add the following to the subgeneric synonymy:

*Scolia* subg. *Scolia* sect. *Scolioides* Guiglia and Capra, 1934. Soc. Ent. Ital. Boll. 66: 115.

Type: *Scolia hirta* Schrank. Orig. desig.

*dubia monticola* Cameron. Syn. of *mexicana* Saussure.

\**mexicana* Saussure.

*Scolia (Lacosi) mexicana* Saussure, 1958. Soc. Ent. France Ann. (3) 6: 219. ♀.

*Scolia (Scolia) dubia monticola* Cameron (syn. by Bradley, 1964. In Betrem and Bradley, Zool. Meded. 40: 96).

*nobilitata otomita* Saussure, changed status.

*Scolia (Scolia) otomita* Saussure. Reduced to subsp. rank (*teste* Bradley, 1964. In Betrem and Bradley, Zool. Meded. 40: 96).

*otomita* Saussure. Subsp. of *nobilitata* Fabricius.

### Genus TRISCOLIA Saussure

(= *Scolia* subgenus *Triscolia* Saussure and Sichel of Catalog p. 775)

Raised to generic rank (*teste* Betrem and Bradley, 1964. Zool. Meded.

- 39: 435). Change bibliographic citation and genotype designation as follows:  
*Scolia* subg. *Triscolia* Saussure, 1863. Soc. Ent. France Ann. (4): 3. 17.  
 Type: *Scolia (Triscolia) badia* Saussure. By monotypy.

Genus **CAMPSOMERIS** Guérin, pp. 775-776

- \**Campsomeris* subg. *Xanthocampsomeris* Bradley, 1957. Amer. Ent. Soc. Trans. 83: 70.

Type: *Tiphia tricineta* Fabricius. Orig. design.

- \**Campsomeris* subg. *Pygodasis* Bradley, 1957. Amer. Ent. Soc. Trans. 83: 72.

Type: *Scolia quadrinotata* Fabricius. Orig. design.

Taxonomy: Bradley, 1957. Amer. Ent. Soc. Trans. 83: 65-77 (subgeneric reclassification Amer. spp.).—Betrem, 1962. Ent. News 73: 207 (type of *Dielis*).

Delete heading, Subgenus **CAMPSOMERIS** Guérin, in Catalog, and reference to *Colpa*; and change type designation for *Elis* subg. *Dielis* to (*Scolia radula* Fabricius =) *Sphex plumipes* Drury.

- \**completa* Rohwer. Ariz. (Chiricahua and Santa Rita Mts.); Mexico to El Salvador. (*Xanthocampsomeris*)

*Campsomeris (Campsomeris) completa* Rohwer, 1927. Wash. Acad. Sci. Jour. 17: 151. ♀.

- \**druryi* Cockerell. Syn. of *quadrinotata* (Fabricius).

*ephippium ephippium* (Say). (*Pygodasis*)

*fulvohirta* (Cresson). (*Xanthocampsomeris*)

*limosa* (Burmeister). (*Xanthocampsomeris*)

\**maculata* (Drury). Syn. of *quadrinotata* (Fabricius).

*pilipes* (Saussure). (*Subgenus?*)

*plumipes confluenta* (Say). On flowers of *Rubus*, *Arabis*, *Melilotus*, *Solidago*, and *Cephalanthus*. ? Host: *Cotalpa lanigera* (L.) (*Dielis*).

Biology: Kurczewski, 1963. Ent. News 74: 21-24.

*plumipes fossulana* (Fabricius). (*Dielis*)

\**Campsomeris szetschwanensis* Forma *D* Betrem, 1932. Ent. Ber. 9: 414. ♂ (Syn. by Betrem, 1964. In Bradley, Spolia Zool. Mus. Hauniensis 21: 35.)

*plumipes plumipes* (Drury). (*Dielis*)

\**quadrinotata* (Fabricius). (*Pygodasis*)

\**Vespa maculata* Drury, 1773. Illustr. Nat. Hist. 2: 74, pl. 39, fig. 2. ♀. Preocc.

*Scolia quadrinotata* Fabricius, 1775. Syst. ent., p. 355. ♀.

\**Campsomeris druryi* Cockerell, 1907. Entom. 40: 50. N. name.

*Campsomeris (Campsomeris) quadrinotata* (Fabricius) (syn. by Bradley, 1964. Ent. News 75: 105).

*quadrinotata* (Fabricius). Syn. of *quadrinotata* (Fabricius).

*tolteca* (Saussure). (*Dielis*)

\**trifasciata nassauensis* Bradley. Fla. (Key Vaca); Bahamas. (*Dielis*)

*Campsomeris (Campsomeris) trifasciata nassauensis* Bradley, 1928. Acad. Nat. Sci. Phila. Proc. 80: 322. ♀, ♂.

*trifasciata trifasciata* (Fabricius). (*Dielis*)

Genus **TRIELIS** Saussure

(= *Campsoscolia* Betrem of Catalog, p. 776)

*Trielis* Saussure, 1863. Soc. Ent. France Ann. (4) 3: 18.

Type: *Elis xantiana* Saussure. By monotypy.

Taxonomy: Betrem, 1962. Ent. News 73: 146.



## Family SAPYGIDAE

Genus SAPYGA Latreille, pp. 777-778

*aculeata* Cresson. Minn.*louisii* Krombein. N. J. (Princeton), Fla. (Orlando).*pumila* Cresson. Hosts: *Ashmeadiella* (A.) *aridula* Ckll., *Megachile* (*Eutricharaea*) *rotundata* (F.).

## Family FORMICIDAE

Morphology: Wilson, 1954. *Insectes Sociaux* 1: 75-80, figs. 1-2 (polymorphism).—Eisner and Brown, 1958 (1956). 10th. Int. Cong. Ent. Proc. 2: 503-508, figs. 1-9 (evolution and social significance of proventriculus).—Eisner, 1957. Harvard Univ., Mus. Compar. Zool. Bul. 116: 439-490, pls. 1-25 (studies of the proventriculus).—G. C. and J. Wheeler, 1960. *Psyche* 67: 87-94 (techniques for study of ant larvae).—Nachtweg, 1961. *Insectes Sociaux* 8: 369-381.—Nachtweg, 1963. *Insectes Sociaux* 10: 43-57 (sound organs).—Nachtweg, 1964 (1963). *Insectes Sociaux* 10: 359-378 (acoustics).

Taxonomy: Van Pelt, 1948. Fla. Ent. 30: 57-67, figs. 1-24 (key to species of Alachua County, Florida).—G. C. and J. Wheeler, 1963. *The Ants of North Dakota*. Univ. N. Dakota Press, Grand Forks, 326 pp., 56 figs., 20 illus., 81 maps.—Gregg, 1963. *The Ants of Colorado: Their Taxonomy, Ecology and Geographic Distribution*. Univ. of Colorado Press, Boulder. 792 pp., 26 tables, 24 pls., 16 distribution maps, 163 altitudinal charts, 1 colored vegetation map.

Economics: Smith and Weiss, 1942. U. S. Dept. Agr., Tech. Bul. 798: 1-44 (relation of insects to spread azalea flower spot).—Smith, 1950. *In Pest Control Technology*. Natl. Pest Control Assoc. Inc., Garrard Press, Champaign, Ill., pp. 261-300, figs. 104-119 (house-infesting ants).—Simeone, 1954. State Univ. N. Y., College of Forestry, Syracuse, Bul. 34: 1-19 (carpenter ants and their control).—Pimentel, 1955. *Jour. Econ. Ent.* 48: 28-30.—Reid, 1962. Ga. Agr. Expt. Sta. and Univ. Ga. Handbook, 71 pp., 17 pls., 154 figs. (ants as intermediate hosts of chicken and turkey tapeworms).—Orlob, 1964 (1963). *Ent. Expt. and Appl.* 6: 95-106 (plant virus trans.).

Embryology: Ledoux, 1954. *Ins. Sociaux* 1: 149-175, figs. 1-55, pl. 1 (*Oecophylla longinoda* Latreille).

Evolution: Brown and Wilson, 1960 (1959). *Quart. Rev. Biol.* 34: 278-294, figs. 1-33 (dacetine ants).

Ecology: Van Pelt, 1956. *Amer. Midland Nat.* 56: 358-387, figs. 1-8, tables 1-3 (ants of Welaka Reserve, Fla.).—Kannowski, 1956. *Amer. Midland Nat.* 56: 168-185, table 1 (ants of Ramsey County, N. Dak.).—Van Pelt, 1958. *Amer. Midland Nat.* 59: 1-57 (annotated list of ants of Welaka Reserve, Fla.).—Carter, 1962. *Elisha Mitchell Sci. Soc. Jour.* 78: 150-204, fig. 1, table 1 (distribution N. C. ants).—*ibidem*, 78: 1-18, tables 1-2 (distribution ants in N. C. Piedmont).—Van Pelt, 1963. *Amer. Midland Nat.* 69: 205-223, figs. 1-2, tables 1-2 (altitudinal distribution of ants in southern Blue Ridge Mts.).

Physiology: Schneirla, 1953. *Insect Physiology*. John Wiley and Sons, Inc., N. Y., ch. 25, pp. 656-685 (basic problems in insect behavior), *ibidem*, ch. 26, pp. 685-723 (insect behavior in relation to its setting), *ibidem*, ch. 27, pp. 723-748 (modifiability in insect behavior), *ibidem*, ch. 28, pp. 748-780 (collective activities and social patterns among insects).—Glockner, 1957. *Insectes Sociaux* 4: 83-90, figs. 1-3 (effect of hormones on metamorphosis).—Eisner and Wilson 1958 (1956). 10th. Int. Cong. Ent. Proc. 2: 509-513, figs. 1-3 (radioactive studies, food transmission).—Wilson, 1959. *Anat.*

- Rec. 134: 653 (pheromones in the organization of ant societies).—Eisner and Happ, 1962. *Psyche* 69: 107-116, text fig. 1; figs. 1-3, pl. 6 (infrabuccal pocket of a formicine ant, a social filtration device).—Roth and Eisner, 1962. *Ann. Rev. Ent.* 7: 107-136, tables 1-2 (chemical defenses of arthropods).—Wilson, 1963. *Sci. Amer.* 208: 100-106, illus. (pheromones).—Wilson and Bossert, 1963. *Recent Progress* 19: 673-716, figs. 1-10, table 1 (chemical communication in animals). Academic Press, Inc., N. Y.
- Biology: Lafleur, 1941. *N. Y. Ent. Soc. Jour.* 49: 227-231 (civil disturbances in ant communities), *ibidem*, pp. 199-204 (communal disaffection).—Flanders, 1945. *Sci.* 101 (2619): 245-246 (Are castes determined by rate of egg deposition?).—Brackbill, 1948. *Auk* 65: 66-77 (anting by four species of birds).—Nixon, 1951. *The Association of Ants with Aphids and Coccids*. Commonwealth Inst. Ent. (London) pp. 1-35.—Flanders, 1951. *Canad. Ent.* 83: 93-98 (role of ants in biological control of homopterous insects).—Flanders, 1952. *Jour. Econ. Ent.* 45: 38-39 (ovisorption as the mechanism causing worker development in ants).—Flanders, 1953. *Sci. Monthly* 76: 142-148, fig. 1 (caste determination in the social Hymenoptera).—Talbot, 1953. *Mich. Univ., Contrib. Lab. Vertebr. Biol.* 63: 1-13 (fauna and populations).—Wilson, 1953. *Psyche* 60: 15-20 (caste determination).—Gosswald and Bier, 1954. *Insectes Sociaux* 1: 229-246, figs. 1-5, tables 1-5 (caste determination in genus *Formica*).—Chapman, 1954. *Pan-Pacific Ent.* 30: 93-102, fig. 1, tables 1-2 (swarming of ants on summits of U. S. western mountains).—Bier, 1954. *Insectes Sociaux* 1: 1-19, figs. 1-2 table 1.—Gosswald, 1955. *Rev. Suisse de Zool.* 62: 372-386 (caste determination in ants).—Wilson and Eisner, 1957. *Insectes Sociaux* 4: 157-166, figs. 1-6 (liquid transmission of food).—Talbot, 1957. *Insectes Sociaux* 4: 375-384 (populations).—Brian, 1957. *Ann. Rev. Ent.* 2: 107-120 (caste determination).—Gosswald and Bier, 1957. *Insectes Sociaux* 4: 335-348, tables 1-9 (caste determination in genus *Formica*).—Weber, 1958 (1956). *10th. Int. Cong. Ent. Proc.* 2: 459-473, figs. 1-12 (evolution of ants and feeding habits).—Wenner, 1959. *Amer. Midland Nat.* 62: 174-182 (ants of Bidwell Park, Chico, Calif.).—Kannowski, 1959. *Insectes Sociaux* 6: 115-162, fig. 1, tables 1-4 (flight activities and colony founding of bog ants in southeastern Mich.).—Downey, 1962. *Ent. News* 73: 57-66 (ants associated with larvae of a lycaenid butterfly).—Ayre, 1962. *N. Y. Ent. Soc. Jour.* 70: 159-167 (problems in using Lincoln Index for estimating size ant colonies).—Kincaid, 1963. *Amer. Micros. Soc. Trans.* 82: 101-105, figs. 1-5 (pollination of plants by ants).—Wilson, 1963. *Ann. Rev. Ent.* 8: 345-368, tables 1-2 (social biology).—Wilson, 1963. *Evolution* 17: 249-253, table 1 (social modification).—Ayre, 1963. *Canad. Ent.* 95: 712-715 (feeding habits).

### Subfamily DORYLINAE

- Taxonomy: Borgmeier, 1958. *Studia Ent.* 1: 197 (key for identification of females to genera, in tribe *Ecitonini*).
- Biology: Schneirla, 1953. *Insectes Sociaux* 1: 29-41 (army ant queen).—Tafari, 1955. *N. Y. Ent. Soc. Jour.* 63: 21-41, pls. 1-3, table 1 (growth and polymorphism of larva of *Eciton hamatum* (F.)).—Schneirla, 1956 (1955). *Smithson. Inst. Ann. Rpt.*, pp. 379-406, figs. 1-4, pls. 1-2 (army ants).—Schneirla, 1957. *Insectes Sociaux* 4: 259-298, figs. 1-2, tables 1-3 (comparison of functional patterns in army ants).—Schneirla, 1957. *Amer. Phil. Soc. Proc.* 101: 106-133, figs. 1-8, tables 1-4 (theoretical consideration of cyclic processes).—Schneirla, 1958. *Insectes Sociaux* 5: 215-255, figs. 1-6, tables 1-2 (behavior and biology of *Neivamyrmex nigrescens* (Cress.) and *N. opacithorax* (Emery)).—Brown, 1960. *Psyche* 66: 25-27 (alarm and attack behavior).—Schneirla, 1960. *Smithsonian Treasury of Science*. Simon and Schuster, N. Y., pp. 664-

696 (the army ants).—Schneirla, 1961. Ztschr. f. Tierpsychol. 18: 1-32, figs. 1-5, tables 1-4 (sexual broods and colony division of *Neivamyrmex nigrescens* (Cress.)).—Rettenmeyer, 1963. Univ. Kans. Bul. 44(9): 287-465, figs. 1-23, tables 1-4 (behavioral studies).

**Morphology:** Hagan, 1954. Amer. Mus. Nat. Hist., Amer. Mus. Novitates 1663: 1-12, figs. 1-2 (anatomy of queen of *Eciton*).—*Ibidem* 1664: 1-17, figs. 1-18 (reproductive system of queen of *Eciton*).—*Ibidem*, 1665: 1-20, figs. 1-21 (the oocyte cycle).—Lappano, 1958. Insectes Sociaux 5: 31-66, figs. 1-25, tables 1-2 (morphological study of larval development in all worker broods of *Eciton burchelli* (Westw.)).—Whelden, 1963. N. Y. Ent. Soc. Jour. 71: 158-178, figs. 10 (A-D4), 11 (A-G), 12 (A-1) (reproductive system of worker and female of *Eciton burchelli* (Westw.) and *E. hamatum* (F.)).—Whelden, 1963. *Ibidem*, pp. 246-261, figs. 1 ((A-K, 14 (A-E), 15 (A-D), 16 (A-E) (antennae and legs, *E. hamatum* and *E. burchelli*)).

**Genus NOMAMYRMEX Borgmeier, Sup. 1, p. 108**

**Morphology:** Borgmeier, 1957. Rev. Brasil. Biol. 17: 390.

**Taxonomy:** Borgmeier, 1958, Studia Ent. 1: 201.

**Genus LABIDUS Jurine, Sup. 1, p. 108**

**Morphology:** Borgmeier, 1957. Rev. Brasil. Biol. 17: 389.

**coecus** (Latreille). Ark.

**Biology:** Kempf, 1961. Studia Ent. 4: 551-552 (as a cave ant).—Rettenmeyer, 1963. Univ. Kans. Sci. Bul. 44 (9): 418-424.

**Morphology:** Borgmeier, 1957, *loc. cit. supra*, p. 390.

**Genus NEIVAMYRMEX Borgmeier, Sup. 1, pp. 108-110**

**Morphology:** Borgmeier, 1957, *loc. cit. supra*, pp. 392-393.

**californicus** (Mayr). Nev.

**carolinensis** (Emery). Ohio, Va.

**fuscipennis** (W. M. Wheeler). Kans.; Mexico.

**harrisii** (Haldeman).

**Taxonomy:** Borgmeier, 1958. Studia Ent. 1: 206-207.

**melanocephalus** (Emery). Honduras.

**nigrescens** (Cresson). Nebr., Colo.

**Biology:** Rettenmeyer, 1963. Univ. Kans. Sci. Bul. 44 (9): 446-452, fig. 23.

**Morphology:** Borgmeier, 1957, *loc. cit. supra*, p. 393.

**Ecology:** Gregg, 1963. The Ants of Colorado, pp. 286-288, map.

**opacithorax** (Emery). Va., Ariz.

**Biology:** Rettenmeyer, 1963. Univ. Kans. Sci. Bul. 44 (9): 437-446, fig. 22.

**Morphology:** Borgmeier, 1957, *loc. cit. supra*, p. 393.

**pauillus** (W. M. Wheeler). La.

**pilosus mandibularis** (M. R. Smith). N. Mex.

**wheeleri** (Emery). Ariz.

**Subfamily CERAPACHYINAE**

**Biology:** Wilson, 1958. Insectes Sociaux 5: 129-140 (behavior).

**ACANTHOSTICHUS subgenus CTENOPYGA Ashmead, p. 782**

**texasus** Forel.

**Taxonomy:** M. R. Smith, 1955. Brooklyn Ent. Soc. Bul. 50: 48-50 (type lost).

## Subfamily PONERINAE

Revision: Brown, 1960. Harvard Univ., Mus. Comp. Zool. Bul. 122: 145-230, figs. 1-48 (tribe Amblyoponini).  
 Biology: Wilson, 1958. Evolution 12: 24-31 (nomadic and predatory behavior).

## \*Genus AMBLYOPONE Erichson

(= *Stigmatomma* Roger of Catalog, pp. 782-783)

**Amblyopone** Erichson, 1842. Arch. f. Naturgesch. 8: 260.

Type: *Amblyopone australis* Erichson. By monotypy.

Taxonomy: Brown, 1960. *loc. cit. supra*, pp. 155-169.

Morphology: Eisner, 1957. Harvard Univ., Mus. Compar. Zool. Bul. 116: 476, pl. 22, fig. 91 (proventriculus).

Biology: Haskins, C. P. and E. F., 1951. Amer. Midland Nat. 45: 432-445, fig. 1 (colony founding of *A. australis* Erichson).

*Amblyopone* replaces *Stigmatomma*, which is a synonym (*teste* Brown, 1960, *loc. cit. supra*).

**oregonense** (W. M. Wheeler), changed status.

***Stigmatomma pallipes oregonense*** W. M. Wheeler. Raised to sp. rank (*teste* Brown, 1960, *loc. cit. supra*, p. 169).

**pallipes** (Haldeman), changed status. Ariz., Colo., Okla.

***Stigmatomma pallipes pallipes*** (Haldeman). Raised to sp. rank (*teste* Brown, 1960, *loc. cit. supra*, p. 169).

***Stigmatomma pallipes montigena*** Creighton (syn. by Brown, 1960, *loc. cit. supra*).

***Stigmatomma pallipes subterranea*** Creighton (syn. by Brown, 1960, *loc. cit. supra*).

Morphology: Whelden, 1957. N. Y. Ent. Soc. Jour. 65: 1-21, pl. 1, figs. 1-6; pl. 2, figs. 1-7.

Ecology: Gregg, 1963. The Ants of Colorado, pp. 279-280, 282, map.

***pallipes montigena*** Creighton. Syn. of ***pallipes*** (Haldeman).

***pallipes oregonense*** W. M. Wheeler. Raised to specific rank.

***pallipes pallipes*** (Haldeman). Raised to specific rank.

***pallipes subterranea*** Creighton. Syn. of ***pallipes*** (Haldeman).

## Genus PLATYTHYREA Roger, p. 783

Taxonomy: Brown, 1952. Breviora 6: 4 (in key).

**punctata** (F. Smith).

Biology: Brown, 1957. Harvard Univ., Mus. Comp. Zool. Bul. 116: 229.

## \*Genus PRIONOPELTA Mayr

***Prionopelta*** Mayr, 1866. Akad. der Wiss. Wien, Math.-Nat. Kl. Sitzber. 53: 503.

Type: *Prionopelta punctulata* Mayr. By monotypy.

Taxonomy: Brown, 1960, *loc. cit. supra*, pp. 173-178.

Place after *Platythyrea*, p. 783.

\***antillana** Forel. Fla. (Juniper Springs in Marion County).

***Prionopelta punctulata antillana*** Forel, 1909. Deut. Ent. Ztschr., p. 239.

Biology: Kempf, 1961. Studia Ent. 4: 489-490.

## Genus ECTATOMMA F. Smith

(= *Ectatomma* subgenus *Ectatomma* F. Smith of Catalog, p. 783)

Revision: Brown, 1958. Harvard Univ., Mus. Comp. Zool. Bul. 118: 206-211.

*Ectatomma* raised to generic rank (*teste* Brown, 1958, *loc. cit. supra*).

**tuberculatum** (Olivier).

Taxonomy: Brown, 1958, *loc. cit. supra*, pp. 209, 211, 298, 299.—Kempf, 1962. Studia Ent. 5: 2-3.

**\*Genus GNAMPTOGENYS Roger**(=*Ectatomma* subgenus *Parectatomma* Emery of Catalog, p. 783)**Gnamptogenys** Roger, 1863. Berlin. Ent. Ztschr. 7: 174.Type: *Ponera tornata* Roger. Desig. by Emery, 1911.**Ectatoma** subg. *Parectatoma* Emery (syn. by Brown, 1958, *loc. cit. supra*, p. 212.)**hartmani** (W. M. Wheeler). La. (Lucky); Honduras. Emendation in spelling of *hartmanni* ! of catalog.Taxonomy: Brown, 1958, *loc. cit. supra*, pp. 228, 230, 234, 302.

Historical: Brown, 1961. Psyche 68: 69.

Biology: Echols, 1964. Ent. Soc. Amer. Ann. 57: 137.

**Genus PROCERATIUM Roger, p. 784****Sysphincta** Roger (syn. by Brown, 1958, *loc. cit. supra*, p. 241).

Biology: Brown, 1958 (1957). Psyche 64: 115.

**croceum** (Roger).Biology: Brown, 1958, *loc. cit. supra*, pp. 246, 247.**melinum** (Roger).Taxonomy: Brown, 1958, *loc. cit. supra*, pp. 243, 246-248 (also biology). Brown, *op. cit.*, p. 334 considers *melinum* a European species which very doubtfully occurs in North America.**pergandei** (Emery). Fla.Taxonomy: Brown, 1958, *loc. cit. supra*, pp. 243, 246, 247-248 (also biology).**silaceum** Roger. Okla.Taxonomy: Brown, 1958, *loc. cit. supra*, pp. 241, 245-248 (also biology).**Genus Sysphincta Roger, p. 784**Transfer to synonymy of *Proceratium*, p. 784.**Genus DISCOTHYREA Roger, pp. 784-785**Taxonomy: Borgmeier, 1957. Acad. Brasil. de Cien. An. 29: 124-125, figs. 36-39 (♂).—Brown, 1958, *loc. cit. supra*, pp. 248-253.

Biology: Brown, 1958 (1957). Psyche 64: 115.

**testacea** Roger. Okla., S. C.Taxonomy: M. R. Smith, 1955. Brooklyn Ent. Soc. Bul. 50: 98 (probable type locality, collector).—Brown, 1958, *loc. cit. supra*, pp. 253, 341-342.**PACHYCONDYLA subgenus PACHYCONDYLA F. Smith, p. 785**

Taxonomy: Kempf, 1961. Rev. Brasil Ent. 10: 189-204, figs. 1-13 (Brazilian species).

**harpax** (Fabricius). Jamaica, Trinidad.Taxonomy: Kempf, 1961, *loc. cit. supra*, p. 194.

Biology: Kempf, 1961. Studia Ent. 4: 493.

**Genus BRACHYPONERA Emery**(=*Euponera* subgenus *Brachyponera* Emery of Catalog, p. 785)

Raised to generic rank by Wilson, 1958. Harvard Univ., Mus. Compar. Zool. Bul. 119: 346.

**Genus TRACHYMESOPUS Emery**(=*Euponera* subgenus *Trachymesopus* Emery of Catalog, p. 786)Raised to generic rank by Wilson, 1958, *loc. cit. supra*, p. 352.**gilva** (Roger). Transf. to *Cryptopone* Emery, *infra*.**stigma** (Fabricius).**\*Ponera quadridentata** Smith, 1859. Linn. Soc. London Jour., Zool. 3:

143. (Syn. by Wilson, 1958, *loc. cit. supra*, p. 355.)  
Biology: Kempf, 1960. *Studia Ent.* 3: 427-428.

\*Genus **CRYPTOPONE** Emery

**Cryptopone** Emery, 1892. *Soc. Ent. de France Bul.* 61:CCLXXV.

Type: ? *Amblyopone testacea* Motschulsky. By monotypy.

Place after *Trachymesopus*, p. 786.

**gilva** (Roger). Ky., N. C. Transf. from *Trachymesopus*, p. 786 (*teste* Brown, 1963. *Breviora* No. 190, p. 6).

Genus **PONERA** Latreille, pp. 786-787

**coarctata pennsylvanica** Buckley. Ariz., Ark., Okla.

Biology: G. C. and J. Wheeler, 1963. *The Ants of North Dakota*, pp. 91-92, map.

Ecology: Gregg, 1963. *The Ants of Colorado*, pp. 281-282, 284, map.

\***exotica** M. R. Smith. N. C. (Piedmont and Coastal Regions; apparently introduced).

**Ponera exotica** M. R. Smith, 1962. *Acta Hym.* 1 (4): 377-382, fig. 1, A, B, ♀, ♀.

**inexorata** W. M. Wheeler. Ariz. (Cochise County, 5400 ft.)

**opaciceps** Mayr. Uruguay.

Taxonomy: Kempf, 1962. *Studia Ent.* 5: 7-9, figs. 8, 9.

Biology: Kempf, 1960. *Studia Ent.* 3: 391.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 283-284, map.

**trigona opacior** Forel. Oreg.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 284-286, map.

Genus **ODONTOMACHUS** Latreille, pp. 787-788

Morphology: Eisner, 1957. *Harvard Univ., Mus. Compar. Zool. Bul.* 116: 475-476, pl. 22, fig. 90 (proventriculus).

**haematoda insularis** Guérin.

Biology: Taylor and Wilson, 1961. *Psyche* 68: 142.

Subfamily **PSEUDOMYRMECINAE**

Taxonomy: G. C. and J. Wheeler, 1956. *Ent. Soc. Amer. Ann.* 49: 376-379, pl. 3, figs. 1-6 (larva).

Genus **PSEUDOMYRMEX** Lund, *Sup.* 1, p. 112

Taxonomy: Kempf, 1958. *Studia Ent.* 1: 434 (*gracilis* (Fabricius) group).

Biology: Brown, 1960. *Ecology* 41: 590.

Morphology: Eisner, 1957, *loc. cit. supra*, pp. 452-453, pl. 1, fig. 5 (proventriculus).

**apache** Creighton.

Biology: Creighton, 1963. *Amer. Mus. Novitates* 2156: 1-4, table 1.

**elongatus** (Mayr).

Taxonomy: Creighton, 1955. *N. Y. Ent. Soc. Jour.* 63: 17-20 (also key U. S. species of *Pseudomyrmex*).

**gracilis mexicanus** (Roger). Fla. (Dade County). Probably introduced.

Taxonomy: G. C. and J. Wheeler, 1956, *loc. cit. supra*, pp. 385-386, pl. 1, figs. 18-21; pl. 2, fig. 3 (larva).—Brown, 1957. *Harvard Univ., Mus. Comp. Zool. Bul.* 116: 235.

**pallidus** (F. Smith).

Physiology: Blum and Callahan, 1963. *Psyche* 70: 69-74 (morphology and physiology of poison glands and venom).

## Subfamily MYRMICINAE

Taxonomy: C. C. and J. Wheeler, 1960. Ent. Soc. Amer. Ann. 53: 98-110, pl. 1; figs. 1-3 (ant larvae).—G. C. and J. Wheeler, 1960. Ent. Soc. Wash. Proc. 62: 1-32, pl. 1-2 (ant larvae).

**MYRMICA** subgenus **MYRMICA** Latreille, pp. 789-791

Taxonomy: Collingwood, 1958. Roy. Ent. Soc., London Proc., Ser. A.33: 65-75, figs. 1-2 (*Myrmica* of Britian).—G. C. and J. Wheeler, 1960, *loc. cit. supra*, pp. 98-110, figs. 1-3 (larvae).—G. C. and J. Wheeler, 1963. The Ants of North Dakota, pp. 94-108, figs.

Biology: Brian, 1957. Insectes Sociaux 4: 177-190, fig. 1, table 1 (growth and development of colonies).—Weir, 1958. Insectes Sociaux 5: 315-339, figs. 1-7, tables 1-9 (polyethism in workers).—Weir, 1958. Jour. Ins. Physiol. 1: 352-360, figs. 1-5 (effect of temperature variation on queen oviposition and colony formation).—Kannowski, 1959. Insectes Sociaux 6: 143-144 (flight comparison).—Weir, 1959. Insectes Sociaux 6: 271-290, figs. 1-5 (influence of worker age on trophogenic larval dormancy).—*Ibidem*, pp. 167-201, fig. 1-tables 1-9 (egg masses and early larval growth).—Brian and Hibble, 1963. Insectes Sociaux 10: 71-82, figs. 1-2, tables 1-5.—Weir, 1959. Physiol. Zool. 32: 63-77, figs. 1-8 (interrelation of queen and worker oviposition).—Carr, 1962. Insectes Sociaux 9: 177-211.—Brian and Hibble, 1963. Insectes Sociaux 10: 71-82.

Physiology: Weir, 1958 (1957). Quart. Jour. Micros. Sci. 98: 499-506, figs. 1-2 (functional anatomy of mid-gut).

**brevinodis brevinodis** Emery.

Biology: Kannowski, 1959, *loc. cit. supra*, p. 121 (p. 155, pleometrosis).—G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 99-101, map.

Ecology: Gregg, 1963. The Ants of Colorado, pp. 291-292, 294, map.

**brevinodis brevispinosa** W. M. Wheeler. Alta., Wash.

Taxonomy: Kannowski, 1956. Amer. Midland Nat. 56: 176, ♂ (also *brevinodis discontinua* ♂).—Gregg, 1961. N. Y. Ent. Soc. Jour. 69: 211, ♀.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 296-297, 299, map.

**brevinodis discontinua** Weber.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 298-300, map.

**brevinodis sulcinodoides** Emery.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 293-295, 297, map.

**laevinodis** Nylander. Syn. of **rubra** (Linnaeus).**lobicornis fracticornis** Emery.

Biology: Kannowski, 1957. Psyche 64: 1-5 (host of *Leptothorax provancheri* Emery).—Kannowski, 1959, *loc. cit. supra*, pp. 121-124, 155-156.—G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 104-106, map.

Ecology: Gregg, 1963, *loc. cit. supra* pp. 300, 302-303, map.

**punctiventris punctiventris** Roger. Ark., Mass.

Taxonomy: Gregg, 1961. N. Y. Ent. Soc. Jour. 69: 211. ♀.

Biology: Kannowski, 1959, *loc. cit. supra*, p. 124.

**punctiventris pinetorum** W. M. Wheeler. N. Y.**\*rubra** (Linnaeus).

*Formica rubra* Linnaeus, 1758. Syst. Nat., Ed. 10, v. 1, p. 580.

*Myrmica* (*Myrmica*) *laevinodis* Nylander (syn. by Yarrow, 1955. Roy. Ent. Soc., London, Proc., Ser. B, 24: 113-115).

Taxonomy: G. C. and J. Wheeler, 1960, *loc. cit. supra*, pp. 4-5 (larva). Biology: Brian, 1951. Experimentia 7: 182 (caste determination).—Brian, 1951. Physiol. Compar. and Oecol. 2: 248-262, figs. 1-2, tables 1-7.—Brian, 1953. *Ibidem* 3: 25-36, tables 1-2 (oviposition by workers).—Brian, 1954. Insectes Sociaux 1: 101-122. fig. 1-3,

tables 1-6 (caste differentiation, larval dormancy, winter size, vernalization).—Brian, 1955. *Ibidem* 2: 1-34, figs. 1-5, tables 1-12 (caste differentiation, growth of workers and intercastes).—Brian, 1955. *Ibidem* 2: 85-114, figs. 1-5, tables 1-8 (caste differentiation, larval dormancy, winter size, and vernalization).—Brian M. V. and A. D., 1955. *Evolution* 9: 280-290, figs. 1-2, tables 1-3 (macrogynes and microgynes).—Brian, 1956. *Insectes Sociaux* 3: 369-394, figs. 1-3, tables 1-8 (caste differentiation, controlled larval nutrition).—Brian, 1956. *Jour. Anim. Ecol.* 25: 319-337, fig. 1, tables 1-2 (segregation of *Myrmica* spp.).—Brian, 1957. *Insectes Sociaux* 4: 191-210, fig. 1, tables 1-7 (serial organization of brood).—Brian, 1957. *Physiol. Compar. and Oecolog.* 4: 329-345, figs. 1-3, tables 1-8 (food distribution and larval size in cultures).—Weir, 1958. *Insectes Sociaux* 5: 315-339, figs. 1-6, tables 1-9 (polyethism in workers).—Brian 1962. *Ibidem* 9: 295-310, illus. (social conditions affecting early larval differentiation).—Brian, 1963. *Ibidem* 10: 91-102 (caste differentiation).

Morphology: Allen, 1957. *Ent. Monthly Mag.* 93: 136-139 (intercastes).  
Physiology: Weir, 1959. *Insectes Sociaux* 6: 375-386, figs. 1-6, table 1 (retro-cerebral endocrine glands and their relation to larval growth and development).

**sabuleti americana** Weber. N. C., Ark.

Taxonomy: Kannoński, 1956. *Amer. Midland Nat.* 56: 175. ♂.

Biology: P. B. and P. M. Kannoński, 1957. *Ohio Jour. Sci.* 57: 371-374 (mating activities).—G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 96-99, map.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 308-310, 312, map.

**sabuleti hamulata** Weber.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 300-301, map.

**scabrinodis mexicana** W. M. Wheeler.

Taxonomy: Gregg, 1961. *N. Y. Ent. Soc. Jour.* 69: 211. ♀.

**schlencki emeryana** Forel.

Biology: Kannoński, 1959. *Insectes Sociaux* 6: 121.—Medler, 1958. *Ent. Soc. Wash. Proc.* 60: 258 (swarming).—G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 103-104, map.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 311-312, 314, map.

**schlencki spatulata** M. R. Smith. ? N. Y.

**striolagaster** Cole. Colo.

Taxonomy: Cole 1957. *Tenn. Acad. Sci. Jour.* 32: 208-209 (♂).—Gregg, 1961, *loc. cit. supra*, p. 211. ♀.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 313-314, map.

**\*Genus PARAMYRMICA** Cole

**Paramyrmica** Cole, 1957. *Tenn. Acad. Sci. Jour.* 32: 37-42.

Type: **Paramyrmica colax** Cole. By monotypy.

Taxonomy: G. C. and J. Wheeler, 1959. *Tenn. Acad. Sci. Jour.* 34: 219, fig. 1, A-G (larva).—Gregg, 1961, *loc. cit. supra*, pp. 209-220, fig. 1.

Place after *Myrmica* subg. *Myrmica*, p. 791.

**\*colax** Cole. Tex. (Limpia Canyon in Davis Mts., Jeff Davis Co.). Inquiline in nest of *Myrmica* (*Myrmica*) *striolagaster* Cole.

**Paramyrmica colax** Cole, 1957. *Tenn. Acad. Sci. Jour.* 32: 37-41, fig. 1, a, b, c. ♀ ♀.

Taxonomy: G. C. and J. Wheeler, 1959, *loc. cit. supra*, pp. 219-220, fig. 1, A-G (larva).—Gregg, 1961, *loc. cit. supra*, pp. 213-215. ♀ ♀.

**rugiventris** (M. R. Smith). Ariz., Colo. Transf. from *Tetramorium*, p. 824 (*teste* Gregg, 1961, *loc. cit. supra*, p. 215).

Taxonomy: Gregg, 1961, *loc. cit. supra*, pp. 210, 215-220 fig. 1. ♀ ♀ ♂.  
Historical: Brown, 1957. *Breviora* No. 72, pp. 5-7.



Genus **MANICA** Jurine, p. 791

Taxonomy: Cole, 1957. Tenn. Acad. Sci. Jour. 32: 213 (key to males).—  
G. C. and J. Wheeler, 1960. Ent. Soc. Wash. Proc. 62: 5 (larva).—  
G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 108-110, figs.

**bradleyi** (W. M. Wheeler).

Taxonomy: Cole, 1957, *loc. cit. supra*, pp. 210-212, fig. 1a (♀ ♂).—G. C.  
and J. Wheeler, 1960, *loc. cit. supra*, p. 6 (larva).

**hunteri** (W. M. Wheeler).

Taxonomy: Cole, 1957, *loc. cit. supra*, pp. 212-213, fig. 1, b (♂).

**mutica** (Emery).

Taxonomy: Cole, 1957, *loc. cit. supra*, p. 213, fig. 1, c (♂).—G. C. and J.  
Wheeler, 1960, *loc. cit. supra*, pp. 5-6 (larva).

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 314-317, map.

Biology: G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 109-110, map.

**POGONOMYRMEX** subgenus **POGONOMYRMEX** Mayr, pp. 791-794

Taxonomy: G. C. and J. Wheeler, 1960, *loc. cit. supra*, p. 2 (larva).

Morphology: Eisner, 1957. Harvard Univ., Mus. Compar. Zool. Bul. 116:  
477-478, pl. 23, figs. 95-96 (proventriculus).

**apache** W. M. Wheeler. Colo.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 318-319, map.

**badius** (Latreille). La.

Taxonomy: G. C. and J. Wheeler, 1960, *loc. cit. supra*, p. 2 (larva).

Physiology: Wilson, Durlach, and Roth, 1959 (1958). Psyche 65: 108-  
114 (chemical releasers of necrophoric behavior).—Wilson, 1959  
(1958). Psyche 65: 41-51, fig. 1, table 1 (chemical releasers of  
alarm and digging).

**barbatus barbatus** (F. Smith). Ark.

Taxonomy: G. C. and J. Wheeler, 1960, *loc. cit. supra*, p. 2 (larva).

Biology: Young and Howell, 1954. Okla. Acad. Sci. Proc. 35: 60-62 (mat-  
ing swarms).

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 319-321, 323, map.

Economics: Gordon, 1943. Jour. Econ. Ent. 36: 354 (damage to air-  
plane runways).—Young and González, 1957. Mexico. Secretaria  
de agricultura y ganaderia, fol. tec. 23: 1-20, figs. 1-6, tables 1-5.

**barbatus fuscatus** Emery.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 322-324, map.

**barbatus rugosus** Emery. Colo., Tex.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 325, 327, map.

**maricopa barnesi** M. R. Smith. Utah.**maricopa maricopa** W. M. Wheeler. Colo.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 326-328, map.

**occidentalis comanche** W. M. Wheeler. La.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 332-334, map.

**occidentalis occidentalis** (Cresson).

Biology: G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 118-120, figs.,  
map.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 328-333, map.

Physiology: Weber, 1959. Ent. News 70: 85-90 (stings, also population).

**subdentatus** Mayr. Nev., Oreg.**POGONOMYRMEX** subgenus **EPHEBOMYRMEX** W. M. Wheeler, p. 794

Biology: Creighton, 1956. Psyche 63: 54-66, fig. 1.

**imberbiculus** W. M. Wheeler. Colo.

Taxonomy: Creighton, 1956. Psyche 63: 63-64, fig. 1 (♀).

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 334-336, map.

Genus *STENAMMA* Westwood, pp. 794-795

Taxonomy: G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 120-122, maps 10-11.

**brevicorne** (Mayr). ? Colo.

Biology: Kanno, 1958. Ent. News 69: 231-233 (swarming of males).

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 346-348, 350, map.

**diecki** Emery. Colo.

Biology: G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 121-122, map.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 349-350, map.

**huachucanum** M. R. Smith. Colo.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 350-351, 353, map.

**impar** Forel.

Biology: G. C. and J. Wheeler, 1963, *loc. cit. supra*, p. 122, map.

**meridionale** M. R. Smith. N. C., Okla.

**occidentale** M. R. Smith. Colo.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 352-354, map.

APHAENOGASTER subgenus *ATTOMYRMA* Emery, pp. 795-798

**ashmeadi** (Emery). N. C.

**flemingi** M. R. Smith. Ala., Ky., La., N. C.

*Aphaenogaster (Attomyrma) macrospina* M. R. Smith (syn. by M. R. Smith, 1957. Brooklyn Ent. Soc. Bul. 52: 113).

**floridana** M. R. Smith. N. C., S. C.

Taxonomy: G. C. and J. Wheeler, 1960, *loc. cit. supra*, p. 7 (larva).

**fulva** Roger. Colo., Fla.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 336-337, 339, map.

**huachucana huachucana** Creighton. Colo.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 338-340, map.

**macrospina** M. R. Smith. Syn. of **flemingi** M. R. Smith.

**mariae** Forel. Ky.

\***megommatus** M. R. Smith. Nev., Ariz., Calif., Oreg.

*Aphaenogaster (Attomyrma) megommatus* M. R. Smith, 1963. N. Y. Ent. Soc. Jour. 71: 244-246, fig. 1, A. B. ♀.

**rudis picea** Emery.

Biology: Haskins, 1960. N. Y. Ent. Soc. Jour. 68: 66-67 (longevity of fertile females).

**rudis rudis** Emery. Colo., Wyo.

Biology: Brown 1959 (1958). Psyche 65: 39-40 (nest raided by *Formica subintegra* Emery.)

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 340-342, map.

**subterranea valida** W. M. Wheeler. Rocky Mt. Region from Colo. to B. C. and west to Utah.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 342-344, map.

**uinta** W. M. Wheeler. Colo.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 344-345, 347, map.

Genus *NOVOMESSOR* Emery, pp. 798-799

Taxonomy: G. C. and J. Wheeler, 1960, *loc. cit. supra*, p. 8 (larva).

**albisetosus** (Mayr).

Taxonomy: G. C. and J. Wheeler, 1960, *loc. cit. supra*, pp. 8, 10, pl. 2, fig. 1 (larva).

**cockerelli** (André).

Taxonomy: G. C. and J. Wheeler, 1960, *loc. cit. supra*, p. 10 (larva).

## Genus VEROMESSOR Forel, p. 799

- Taxonomy: G. C. and J. Wheeler, 1956. *Psyche* 63: 142-143 (larva).
- andrei** (Mayr).  
Biology: McCluskey, 1958. *Science* 128: 536-537, fig. 1 (daily rhythm of male).
- lariversi** M. R. Smith.  
Taxonomy: Cole, 1963. *Ent. Soc. Amer. Ann.* 56: 680, 682, figs. 1, B; fig. 3, B; fig. 4, B (♀ ♀ ♂).
- lobognathus** (Andrews). N. Dak.  
Taxonomy: G. C. and J. Wheeler, 1956. *Psyche* 63: 143-145, fig. 2, A-J (larva).—Cole, 1963, *loc. cit. supra*, pp. 680-682, fig. 1, C; fig. 2, C; fig. 3, C; fig. 4, C (♀ ♀ ♂).  
Biology: G. C. and J. Wheeler 1956. *Psyche* 63: 140-142.—*Ibidem*, 1959. *Ent. Soc. Amer. Ann.* 52: 176-179, figs. 1-5 (behavior, nest structure).—*Ibidem*, 1963, *loc. cit. supra*, pp. 123-125, figs., map.  
Ecology: Gregg, 1963, *loc. cit. supra*, pp. 354-356 map.
- pergandei** (Mayr).  
Taxonomy: Cole, 1963, *loc. cit. supra*, p. 681 (♀).
- \***smithi** Cole. Nev. (Mercury in Nye County).  
*Veromessor smithi* Cole, 1963. *Ent. Soc. Amer. Ann.* 56: 678-680, fig. 1, A; fig. 2, A; fig. 3, A; fig. 4, A. ♀ ♀ ♂.

## PHEIDOLE subgenus PHEIDOLE Westwood, pp. 799-806

- Taxonomy: Creighton, 1957. *N. Y. Ent. Soc. Jour.* 65: 203-212 (*vasliti* complex).—Gregg, 1958. *N. Y. Ent. Soc. Jour.* 66: 7-48 (key to species of the U. S.).—G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 125-131, maps 13, 14.  
Biology: Weber, 1948. *Ent. News* 59: 31-35 (food of larvae and adults).
- bahai** (Forel).  
Taxonomy: M. R. Smith, 1955. *Brooklyn Ent. Soc. Bul.* 50: 99 (opinions of authors concerning correct taxonomic placement).
- bicarinata bicarinata** Mayr.  
*Pheidole (Pheidole) vinelandica buccalis* W. M. Wheeler (syn. by Cole, 1956. *Tenn. Acad. Sci. Jour.* 31: 114).  
Biology: G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 126-127, map.  
Ecology: Gregg, 1963, *loc. cit. supra*, pp. 408-409, map.
- bicarinata longula** Emery. N. Dak.  
Biology: G. C. and J. Wheeler, 1963, *loc. cit. supra*, p. 127, map.  
Ecology: Gregg, 1963, *loc. cit. supra*, pp. 408, 410, map.
- \***bicarinata paiute** Gregg. (*In subarmata* group.) Nev. (Goldfield).  
*Pheidole bicarinata paiute* Gregg, 1958. *N. Y. Ent. Soc. Jour.* 66: 17-18. ♀ 2f.
- bicarinata vinelandica** Forel.  
Biology: G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 127-128, map.  
Ecology: Gregg, 1963, *loc. cit. supra*, pp. 410, 412-413, map.  
Economics: Reid and Nugara, 1961. *Jour. Parasitol.* 47: 885-889, pl. 1, figs. 1-16.
- californica micula** W. M. Wheeler. Raised to sp. rank.
- californica oregonica** Emery.  
*Pheidole (Pheidole) californica shoshoni* Cole. (syn. by Gregg, 1958, *loc. cit. supra*, p. 33).
- californica shoshoni** Cole. Syn. of **californica oregonica** Emery.
- ceres** W. M. Wheeler.  
Ecology: Gregg, 1963, *loc. cit. supra*, pp. 413-415, map.
- cockerelli** W. M. Wheeler. Colo.  
Ecology: Gregg, 1963, *loc. cit. supra*, pp. 415-417, map.

**constipata** W. M. Wheeler. Subsp. of **floridana** Emery.

**creightoni** Gregg. Calif.

**davisi** W. M. Wheeler. N. C.

**dentata** Mayr.

Biology: Van Pelt, 1950. Ent. News 61: 161-163, fig. 1, A, B, C (parasitism by a chalcid).

**dentigula** M. R. Smith.

Taxonomy: G. C. and J. Wheeler, 1960, *loc. cit. supra*, p. 12 (larva).

**desertorum** W. M. Wheeler. Okla., N. Mex.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 417-419, map.

**flavens sculptior** Forel. Delete from Catalog; a misdetermination (*teste* Gregg, 1958, *loc. cit. supra*, p. 45).

**floridana constipata** W. M. Wheeler.

**Pheidole (Pheidole) constipata** W. M. Wheeler. Reduced to subsp. rank (*teste* Gregg, 1958, *loc. cit. supra*, p. 35).

**floridana floridana** Emery, changed status, N. C.

**Pheidole (Pheidole) floridana lauta** W. M. Wheeler (syn. by Gregg, 1958, *loc. cit. supra*, p. 35).

**Pheidole (Pheidole) floridana** Emery. Reduced to subsp. rank (*teste* Gregg, 1958, *loc. cit. supra*, p. 35).

**floridana lauta** W. M. Wheeler. Syn. of **floridana floridana** Emery.

**grallipes** W. M. Wheeler.

**Pheidole grallipes** var. **vistana** Forel (syn. by Gregg, 1958, *loc. cit. supra*, p. 22).

**grallipes** var. **vistana** Forel. Syn. of **grallipes** W. M. Wheeler.

**hyatti hyatti** Emery. Okla., Tex.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 419-420, map.

**lamia** W. M. Wheeler.

Biology: Gregg, 1956. Ent. News 67: 37-39 (also distribution).

**macclendoni** W. M. Wheeler.

Taxonomy: Gregg, 1958, *loc. cit. supra*, pp. 46-47. 2f.—Cole, 1958 (1957). N. Y. Ent. Soc. Jour. 65: 130-131 (♀, especially 2f.).

**megacephala** (Fabricius).

Biology: Broekhuysen, 1948. Union So. Africa Dept. Agr. Bul. 266, pp. 1-40, figs. 1-22, tables 1-10.—Brown, 1958. Acta Hym. 1: 47.—Weber, 1960. Ent. Soc. Wash. Proc. 62: 232.—Taylor and Wilson, 1961. Psyche 68: 143.—Kempf, 1962. Studia Ent. 5: 18-19.

**metallescens metallescens** Emery.

Taxonomy: G. C. and J. Wheeler, 1960, *loc. cit. supra*, p. 12 (larva).

**micula** W. M. Wheeler, changed status.

**Pheidole (Pheidole) californica micula** W. M. Wheeler. Raised to sp. rank (*teste* Gregg, 1958, *loc. cit. supra*, p. 33).

**militicida** W. M. Wheeler.

Biology: Creighton, 1960 (1959). Psyche 66: 1-12, fig. 1 (major worker).

**\*moerens** W. M. Wheeler. Ala. (Mobile). Apparently introduced. Originally described from Puerto Rico.

**Pheidole moerens** W. M. Wheeler, 1908. Amer. Mus. Nat. Hist. Bul. 24: 136-138. ♀ 2f.

**morrisii morrisii** Forel.

Taxonomy: G. C. and J. Wheeler, 1960, *loc. cit. supra*, p. 12 (larva).

**\*obtusospinosa** Pergande. Syn. of **\*subdentata** Pergande.

**pilifera coloradensis** Emery.

Biology: G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 128-130, map.  
Ecology: Gregg, 1963, *loc. cit. supra*, pp. 419, 421-422, map.

**pilifera pilifera** (Roger). N. Dak.Biology: G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 130-131, map.**\*rugulosa** Gregg. (*In subarmata* group.) Ariz. (Harding's Ranch near Tucson.)**Pheidole rugulosa** Gregg, 1958. N.Y. Ent. Soc. Jour. 66: 26-29. ♀ 24  
♀ ♂.**senex** Gregg.Ecology: Gregg, 1963, *loc. cit. supra*, pp. 422-424, map.**sitarches campestris** W. M. Wheeler, changed status. Tex. and Colo. to Mo. and Miss.**Pheidole (Pheidole) soritis** W. M. Wheeler, in part of Sup. 1. Remove **sitarches rufescens** var. **campestris** W. M. Wheeler and its synonym, **rufescens** from synonymy of **soritis** and place as a subspecies of **sitarches** W. M. Wheeler (*teste* Gregg, 1958, *loc. cit. supra*, pp. 30, 38).Ecology: Gregg, 1963, *loc. cit. supra*, pp. 424-425, map.**sitarches sitarches** W. M. Wheeler. Tex.; Mexico.

Biology: Wilson, 1957. Psyche 64: 46-50 (nuptial flights).

**sitarches soritis** W. M. Wheeler, changed status. Ariz., N. Mex., Tex., Utah; Mexico.**Pheidole (Pheidole) soritis** W. M. Wheeler. A subsp. of **sitarches** not a species (*teste* Gregg, 1958, *loc. cit. supra*, pp. 30, 38).**Pheidole (Pheidole) tepicana cavigenis** W. M. Wheeler (syn. by Gregg, 1958, *loc. cit. supra*, p. 48).**soritis** W. M. Wheeler, of Sup. I. A subsp. of **sitarches** W. M. Wheeler. N.B., **sitarches rufescens** var. **campestris** W. M. Wheeler and its synonym **sitarches rufescens** W. M. Wheeler, is another subsp. of **sitarches**.**\*subdentata** Pergande. Ariz.; Mexico.**Pheidole subdentata** Pergande, 1895. Calif. Acad. Sci. Proc. 5: 888. ♀.**Pheidole (Pheidole) vasliti arizonica** Santschi (syn. by Creighton, 1957. N. Y. Ent. Soc. Jour. 65: 211).**\*Pheidole obtusospinosa** Pergande, 1895. Calif. Acad. Sci. Proc. 5: 889. 24. (Syn. by Creighton, 1957, *loc. cit. supra*, p. 211.)**tepicana cavigenis** W. M. Wheeler. Syn. of **sitarches soritis** W. M. Wheeler.**vasliti arizonica** Santschi. Syn. of **subdentata** Pergande.**vinelandica buccalis** W. M. Wheeler. Syn. of **bicarinata bicarinata** Mayr.**PHEIDOLE** subgenus **CERATOPHEIDOLE** Pergande, p. 806Taxonomy: Gregg, 1958, *loc. cit. supra*, pp. 9, 16 (key to species of U. S.).**grundmanni** M. R. Smith.Ecology: Gregg, 1963, *loc. cit. supra*, pp. 424, 426-427, map.**Genus EPIPHEIDOLE** W. M. Wheeler, p. 806**inquilina** W. M. Wheeler.Ecology: Gregg, 1963, *loc. cit. supra*, pp. 427-429, map.**Genus SYMPHEIDOLE** W. M. Wheeler, p. 807**elecebra** W. M. Wheeler.Ecology: Gregg, 1963, *loc. cit. supra*, pp. 429-431, map.**Genus CARDIOCONDYLA** Emery, p. 807

Taxonomy: Weber, 1952. Amer. Mus. Novitates No. 1548: 5.

Biology: Wilson, 1960 (1959). Psyche 66: 29-34 (tandem running in genus *Cardiocondyla*).**emeryi** Forel.Taxonomy: Weber, 1952, *loc. cit. supra*, p. 5.**nuda minutior** Forel. Calif., Tex., La. An introduced form. Probably a native of the Oriental Region.

**CREMATOGASTER** subgenus **ORTHOCREMA** Santschi, pp. 807-808**minutissima minutissima** Mayr. N. C.

Taxonomy: G. C. and J. Wheeler, 1960, *loc. cit. supra*, p. 14, pl. 2, figs. 11-13 (larva).

**minutissima missouriensis** Emery. Colo.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 363-364, map.

**CREMATOGASTER** subgenus **CREMATOGASTER** Lund, pp. 808-810

Taxonomy: Buren, 1958. N. Y. Ent. Soc. Jour. 66: 119-134 (also biology).

Biology: Soulié, 1962. Insectes Sociaux 9: 181-195 (colony foundation and development).

**cerasi** (Fitch).

Biology: Kanno, 1959. Insectes Sociaux 6: 125.

**lineolata emeryana** Creighton.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 358-360, map.

**lineolata lineolata** (Say).

Biology: G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 132-133, map.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 357, 359, map.

**punctulata** Emery.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 361-362, 364, map.

**vermiculata** Emery. N. C.

Taxonomy: G. C. and J. Wheeler, 1960, *loc. cit. supra*, p. 13, pl. 2, figs. 14-15 (larva).

**MONOMORIUM** subgenus **MONOMORIUM** Mayr, pp. 810-811

Taxonomy: G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 133-136, fig., map 16.

**floricola** (Jerdon).

Biology: Brown, 1964. Ent. News 75: 15.

**\*metoecus** Brown and Wilson. Ala. (Tuscaloosa). Parasite of *Monomorium minimum* (Buckley).

**Monomorium metoecus** Brown and Wilson, 1957. Ent. News 68: 239-244, fig. 1, a and b, ergatogyne.

Taxonomy: Wilson and Brown, 1958. Ent. News 69, 33-38, fig. 1, A and B (♀ also biology).

**minimum** (Buckley). Change heading in Sup. 1, p. 128 from *minimum minimum* to *minimum*.

Biology: G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 133-135, map.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 366-368, map.

**pharaonis** (Linnaeus).

Biology: Peacock, Hall, Smith and Goodfellow, 1950. Scot. Dept. Agr. Misc. Pub. No. 17: 1-50, figs. 1-5, tables 1-3.—Sudd, 1953. Adv. of Sci. (Brit.) 10: 17-18 (colony formation).—Peacock, Waterhouse and Baxter, 1955. Ent. Monthly Mag. 91: 37-42 (viability in regard to temperature and moisture).—Brown, 1958. Acta Hym. 1: 36.—G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 135-136, map.—Brown, 1964. Ent. News 75: 14-15.—Eichler, 1963. Deut. Ent. Ztschr. 10: 207-215.

Morphology: G. C. and J. Wheeler, 1960, *loc. cit. supra*, p. 16 (larva).

Embryology: Smith and Peacock, 1957. Roy. Soc. Edinb. Proc., Section B, 66: 235-261, figs. 1-4, table 1 (cytology).

**viridum peninsulatum** Gregg. Fla. and Gulf Coast States to Ariz., including southern Colo.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 368-370, map.

**viridum viridum** Brown. N. Y., Long Island (Coram, Selden).

## MONOMORIUM subgenus PARHOLCOMYRMEX Emery, p. 811

**destructor** (Jerdon).

Economics: Kempf, 1960. *Studia Ent.* 3: 506-507.

## Genus XENOMYRMEX Forel, p. 811

Taxonomy: G. C. and J. Wheeler, 1960. *Ent. Soc. Wash. Proc.* 62: 19-20 (larva).—Creighton, 1957. *Amer. Mus. Novitates* 1843: 1-14 (including key to species).

**floridanus floridanus** Emery, changed status. Cuba, Bahamas. Another subspecies, *f. skwarrae* W. M. Wheeler, occurs in Mexico.

**Xenomyrmex stolli floridanus** Emery. A subsp. of **floridanus** not a subsp. of **stolli** Emery (*teste* Creighton, 1957, *loc. cit. supra*, p. 6).

## SOLENOPSIS subgenus SOLENOPSIS Westwood, pp. 812-813

Taxonomy: Snelling, 1963. *Calif. Dept. Agr., Bur. Ent., Occas. Papers* No. 3: 1-10, figs. 1-12 (keys to all castes).

Physiology: Blum, Walker, Callahan and Novak, 1958. *Science* 128: 306-307 (chemical, insecticidal and antibiotic properties of fire ant venom).

**aurea** W. M. Wheeler, changed status.

**Solenopsis (Solenopsis) aurea amblychila** W. M. Wheeler (syn. by Snelling, 1963, *loc. cit. supra*, p. 7).

**aurea amblychila** W. M. Wheeler. Syn. of **aurea** W. M. Wheeler.

**aurea aurea** W. M. Wheeler. Raised to sp. rank.

**geminata geminata** (Fabricius).

Biology: Kempf, 1961. *Studia Ent.* 4: 507.

**saevisima richteri** Forel.

Taxonomy: Wilson, 1953. *Evolution* 7: 262-263, fig. 1 (origin of variation).—Brown, 1957. *Quart. Rev. Biol.* 32: 258-261, figs. 4-7.—Wilson and Brown, 1958. *Evolution* 12: 211-218, figs. 1-3, table 1 (morphological changes in introduced population).

Biology: Wilson, 1958. *Sci. Amer.* 198: 36-41, maps, illus.—Green, 1962. *Jour. Econ. Ent.* 55: 1003-1004, table 1.

Morphology: Callahan, Blum and Walker, 1959. *Ent. Soc. Amer. Ann.* 52: 573-590, figs. 1-19 (also histology of poison glands and sting).

Physiology: Caro, Derbes and Jung, 1957. *Amer. Med. Assoc. Arch. Derm.* 75: 475-478, figs. 1-7.—Favorite, 1958. *U. S. Pub. Health Serv., Pub. Health Rpts.* 73: 445-448.—Wilson, Durlach and Roth 1959 (1958). *Psyche* 65: 108-114 (chemical releases of necrophoric behavior).—Wilson, 1959. *Science* 129: 643-644 (nature of odor trail).—Wilson, 1962. *Anim. Behavior* 10: 134-147, figs. 1-8, tables 1-4 (chemical communication among workers—mass foraging).—Blum and Callahan, 1960. *XI Int. Congr. F. Entom. Wien, Verh. B.* 111: 290-293 (chemical and biological properties of venom).—Wilson, 1962. *Anim. Behavior* 10: 148-158, figs. 1-5, tables 1-2 (chemical communication among workers—analysis of the odour trail).—Wilson, 1962. *Ibidem*, 159-164, table 1 (chemical communication among workers—induction of social responses).

**xyloni** McCook. Colo.

Biology: Wray, 1962. *Jour. Econ. Ent.* 55: 145 (apparent introduction into N. C.)

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 370-371, 373, map.

Physiology: Blum, Roberts and Novak, 1961. *Psyche* 68: 73-74 (chemical and biological characters of venom).

## SOLENOPSIS subgenus EUOPHTHALMA Creighton, p. 813

**globularia littoralis** Creighton.

Taxonomy: G. C. and J. Wheeler 1960, *loc. cit. supra*, p. 22 (larva).

## SOLENOPSIS subgenus DIPLORHOPTRUM Mayr, pp. 813-814

**molesta molesta** (Say). Colo.

Biology: G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 136-138, map.—Macnamara, 1945. *Canad. Ent.* 77: 40.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 372-373, 375, map.

**molesta validiuscula** Emery. Pacific Coast States east to Idaho, Colo., N. Mex.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 374-375, 377, map.

**pergandei** Forel.

Taxonomy: G. C. and J. Wheeler, 1960, *loc. cit. supra*, pp. 21-22 (larva).

**picta** Emery. N. C.

Taxonomy: G. C. and J. Wheeler, 1960, *loc. cit. supra*, p. 22 (larva).

**salina** W. M. Wheeler. Colo.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 376-378, map.

**tennesseensis** M. R. Smith. Kans. (Kearny County), Calif. (near Azusa).**texana texana** Emery. N. C.**texana truncorum** Forel. Colo., Ariz., Calif.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 378-380, map.

## Genus ANERGATES Forel, p. 815

**atratus** (Schenk). Md. (Baltimore), N. Y. (Suffolk County, Long Island).

Morphology: Meyer, 1955. *Insectes Sociaux* 2: 163-170, figs. 1-4.

## Genus EREBOMYRMA W. M. Wheeler, p. 815

\***Spelaeomyrmex** W. M. Wheeler, 1922. *Amer. Mus. Novitates* No. 45: 9. (Syn. by Wilson, 1962. *Psyche* 69: 63.)

Type: **Spelaeomyrmex urichi** W. M. Wheeler. By monotypy.

Biology: Wilson, 1962, *loc. cit. supra*, pp. 62-72, fig. 1.

**longii** W. M. Wheeler. Okla. (Fort Sill).

## Genus MYRMECINA Curtis, pp. 815-816

**americana** Emery. Colo., N. Mex.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 364-365, 367, map.

## LEPTOTHORAX subgenus NESOMYRMEX W. M. Wheeler, pp. 816-817

Revision: Kempf, 1959. *Studia Ent.* 2: 391-432, figs. 1-31.

**wilda** M. R. Smith. Tex.; Mexico.

Taxonomy: Kempf, 1959, *loc. cit. supra*, 421-423, figs. 8, 28 (♂ ♀).

## LEPTOTHORAX subgenus MYRAFANT M. R. Smith, pp. 817-819

Taxonomy: Cole, 1958. *Ent. Soc. Amer. Ann.* 51: 535-538 (*nitens-carinatus* complex).—G. C. and J. Wheeler, 1960. *Ent. Soc. Wash. Proc.* 62: 23 (larva).

**andrei** Emery. Nev., Ariz., N. Mex.

Taxonomy: Cole, 1958, *loc. cit. supra*, pp. 537-538 (♂, ♀, ♂).

**ambiguus ambiguus** Emery. Slave of *L. duloticus* Wesson.

Biology: Kanno, 1959. *Insectes Sociaux* 6: 124 (150-151, parasitism; 155 pleometrosis).—G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 140-141, map.

\***carinatus** Cole. Tex. (Limpia Canyon, Davis Mts., 5,400 ft.), Ariz.

**Leptothorax (Leptothorax) carinatus** Cole, 1957. *Tenn. Acad. Sci. Jour.* 32: 213-215, fig. 1. ♂ ♀.

Taxonomy: Cole, 1958, *loc. cit. supra*, pp. 537-538 (♂, ♀).

**curvispinosus** Mayr. Okla., Ariz.

Biology: Talbot, 1957. *Ecology* 38: 449-456 (populations).—Kanno, 1959, *loc. cit. supra*, p. 124.



**foveata** M. R. Smith. Va.

**furunculus** W. M. Wheeler. Wyo.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 381, 382, map.

\***hispidus** Cole. Tex. (Limpia Canyon, Davis Mts., 5,400 ft.); Mexico.

**Leptothorax (Leptothorax) hispidus** Cole, 1957. Tenn. Acad. Sci. Jour. 32: 42-45, fig. 1, a, b, c. ♀ ♀.

**longispinosus** Roger.

Biology: Kannoowski, 1959, *loc. cit. supra*, p. 125.

**mariposa** W. M. Wheeler, changed status.

**Leptothorax (Myrafant) nitens nitens** Emery, in part of Sup. 1. Remove **mariposa** W. M. Wheeler from syn. and raise to sp. rank (*teste*, Cole, 1958, *loc. cit. supra*, p. 536).

**nitens** Emery, changed status. Wash., Oreg., Nev.

**Leptothorax (Myrafant) nitens nitens** Emery. Raised to sp. rank (*teste* Cole, 1958, *loc. cit. supra*, p. 536).

**Leptothorax (Myrafant) nitens heathii** W. M. Wheeler. (Syn. by Cole, 1958, *loc. cit. supra*, p. 536).

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 382-384, map.

**nitens heathii** W. M. Wheeler. Syn. of **nitens** Emery.

**nitens nitens** Emery of Sup. I. Raised to sp. rank; remove **mariposa** W. M. Wheeler from syn. and also raise it to sp. rank.

**obliquicanthus** Cole.

Taxonomy: Gregg, 1953. Breviora No. 22, pp. 1-3, fig. 1. ♀.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 384-385, 387, map.

**rugatulus brunnescens** W. M. Wheeler. Colo. and Utah to Mont. and the Dakotas.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 388-389, map.

**rugatulus rugatulus** Emery.

Taxonomy: Kannoowski, 1956. Amer. Midland Nat. 56: 178-179 (♀; also **rugatulus brunnescens** W. M. Wheeler).

Biology: G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 141-143, map.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 386-388, map.

**schaumi** Roger.

Taxonomy: G. C. and J. Wheeler, 1960, *loc. cit. supra*, p. 23 (larva).

**schmittii** W. M. Wheeler.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 388, 390-391, map.

**texanus texanus** W. M. Wheeler.

Taxonomy: G. C. and J. Wheeler, 1960, *loc. cit. supra*, p. 24 (larva).

**tricarinatus neomexicanus** W. M. Wheeler. Colo.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 393-394, map.

**tricarinatus tricarinatus** Emery. Ariz., Idaho, N. Dak.

Biology: G. C. and J. Wheeler, 1963, *loc. cit. supra*, p. 143, map.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 391-393, map.

**tuscaloosae** Wilson. N. C.

#### LEPTOTHORAX subgenus DICHOTHORAX Emery, p. 820

**pergandei pergandei** Emery.

Taxonomy: G. C. and J. Wheeler, 1960, *loc. cit. supra*, p. 23 (larva).

#### LEPTOTHORAX subgenus LEPTOTHORAX Mayr, pp. 820-822

Taxonomy: G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 143-148, figs., maps 21-23.

**crassipilis** W. M. Wheeler.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 401-402, 405, map.

**duloticus** L. G. Wesson. Enslaves *Leptothorax ambiguus ambiguus* Emery.

Biology: Talbot, 1957. Ecology 38: 449-456 (populations).—Kannowski, 1959. Insectes Sociaux 6: 124-125 (150-151, parasitism).

**hirticornis** Emery. Calif.

Biology: G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 145-146, map.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 403, 405, map.

**muscorum** (Nylander).

Biology: Kannowski 1959, *loc. cit. supra*, p. 125.—G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 143-145, map.

Ecology: Brown, 1955. Ent. News 66: 47-50.—Gregg, 1963, *loc. cit. supra*, pp. 393-400, map.

**provancheri** Emery. Colo. Host: *Myrmica lobicornis fracticornis* Emery.

Biology: Kannowski, 1957. Psyche 64: 1-5.—G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 146-148, map.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 404-407, map.

Genus **HARPAGOXENUS** Forel, pp. 822-823

**americanus** (Emery). N. C., Ont.

Genus **TRIGLYPHOTHRIX** Forel, p. 823

**striatidens** (Emery).

Biology: Taylor and Wilson, 1961. Psyche 68: 142.

Genus **TETRAMORIUM** Mayr, pp. 823-824

**caespitum** (Linnaeus).

Biology: Brown, 1964. Ent. News 75: 15.

Taxonomy: G. C. and J. Wheeler, 1960, *loc. cit. supra*, pp. 24-25 (larva).

Historical: Brown, 1957. Breviora 72: 1-4.

**guineense** (Fabricius).

Biology: Taylor and Wilson, 1961. Psyche 68: 138.—Brown, 1964. Ent. News 75: 14-15.

Ecology: Brown, 1958. Acta Hym. 1: 28.

**rugiventris** M. R. Smith. Transf. to **Paramyrmeica** Cole, p. 791.

**simillimum** (F. Smith).

Biology: Taylor and Wilson, 1961. Psyche 68: 142-143.

Genus **XIPHOMYRMEX** Forel, p. 824

Taxonomy: Cole, 1957. Tenn. Acad. Sci. Jour. 32: 209-210 (♂).

**PARACRYPTOCERUS** subgenus **HARNEDIA** M. R. Smith, p. 825

Revision: Kempf, 1958. Studia Ent. 1: 65-144, pls. 1-8.

**rohweri** (W. M. Wheeler).

Taxonomy: Kempf, 1958, *loc. cit. supra*, pp. 129-132, pl. 2, fig. 8; pl. 4, fig. 2; pl. 6, fig. 12.

**texasus** (Santschi).

Taxonomy: Kempf, 1958, *loc. cit. supra*, pp. 123-127, pl. 2, fig. 5; pl. 4, fig. 4; pl. 6, fig. 7.

Biology: Creighton, 1963. Psyche 70: 133-143, figs. 1-3.

**PARACRYPTOCERUS** subgenus **CYATHOMYRMEX** Creighton, p. 825

Revision: Kempf, 1958. Studia Ent. 1: 144-158, pl. 8.

**varians** (F. Smith).

Taxonomy: Kempf, 1958, *loc. cit. supra*, pp. 155-158, pl. 8, figs. 7, 8.

**STRUMIGENYS** subgenus **STRUMIGENYS** F. Smith, pp. 825-826

Taxonomy: G. C. and J. Wheeler, 1960, *loc. cit. supra*, pp. 25-26 (larva). —Brown, 1960 (1959). Psyche 66: 37-52, figs. 1-9 (*gundlachi* group).—Brown, 1962. Psyche 69: 238-267, figs. 1-30 (Neotropical species and key).

Biology: Brown and Wilson, 1960 (1959). Quart. Rev. Biol. 34: 281.

\**eggersi* Emery. Fla. (Miami, Fisher's Isl., Archbold Biol. Station). Probably introduced.

*Strumigenys eggersi* Emery, 1890. Soc. Ent. Ital. Bul. 22: 68, pl. 7, fig. 9. ♂ ♀.

Taxonomy: Brown, 1960 (1959). Psyche 66: 46-47, figs. 2, 6 (♂, ♀).—Brown, 1962. Psyche 69: 249, 257, 264.

Biology: Weber 1952. Amer. Mus. Novitates No. 1554: 5.—Kempf, 1958, loc. cit. supra, p. 554.—Kempf, 1961. Studia Ent. 4: 515.

\**gundlachi* Emery. Fla. (Royal Palm Ranger Station, Everglades Natl. Park; Key Largo.) Probably introduced.

*Strumigenys gundlachi* Roger, 1862. Berlin Ent. Ztschr. 6: 253, pl. 1, fig. 18 a ♂ not ♀.

Taxonomy: Brown, 1960 (1959). Psyche 66: 37-45, figs. 1, 5 (♂ ♀).—Brown, 1962. Psyche 69: 249, 257, 264.

Biology: Weber, 1952, loc. cit. supra, pp. 4-5.

*louisianae* Roger. Ariz., Okla.

Taxonomy: Brown, 1953. Psyche 60: 1-2.—G. C. and J. Wheeler, 1954. Psyche 61: 136-137, pl. 10, figs. 1-6 (larva).—Brown, 1957. Quart. Rev. Biol. 32: 271.—Brown, 1961. Psyche 68: 64-67, 68 (variation and synonymy).—Brown, 1962. Psyche 69: 246-247, 257, 263.

Biology: Wilson, 1953. Ent. Soc. Amer. Ann. 46: 481-483.—Kempf, 1958. Studia Ent. 1: 555.

\**silvestrii* Emery. La. (Paradise). Apparently introduced.

*Strumigenys silvestrii* Emery, 1905. Soc. Ent. Ital. Bul. 37: 168, fig. 27. ♂ ♀.

Taxonomy: Brown, 1959. Studia Ent. (n.s.) 2: 25-28, fig. 1 (♂ ♀).—Brown, 1962. Psyche 69: 246, 257, 259.

#### SMITHISTRUMA subgenus WESSONISTRUMA Brown, p. 826

Biology: Brown and Wilson, 1960 (1959). Quart. Rev. Biol. 34: 282.—Brown, 1964. Amer. Ent. Soc. Trans. 89: 190-197.

*angulata* (M. R. Smith). Ill. (Giant City State Park).

*pergandei* (Emery). N. C., Mo., Kans.

Taxonomy: G. C. and J. Wheeler, 1954. Psyche 61: 144-145 (larva). Note: W. L. Brown, 1964, loc. cit. supra, p. 197 remarks that this species was taken at Billerica, Mass. "the northernmost locality from which any dacetine ant has been taken in the New World."

#### SMITHISTRUMA subgenus SMITHISTRUMA Brown, pp. 826-828

Biology: Brown, 1964, loc. cit. supra, pp. 185-186, 189-191, 193-200.

*abdita* (L. G. Jr., and R. G. Wesson). N. C. (Great Smoky Mt. Natl. Park, 2600 ft.), Ill., Iowa and Va.

Taxonomy: Brown, 1964, loc. cit. supra, pp. 199-200 (*abdita-missouriensis* complex).

*bimarginata* (L. G. Jr., and R. G. Wesson). Ill. (Red Hills State Park).

*brevisetosa* (M. R. Smith). Syn. of *pilinasis* (Forel).

*bunki* W. L. Brown. Fla. (Duvall Co.).

\**carolinensis* W. L. Brown. S. C. (U. S. Hwy. 17, 1 mile east Ravenel), N. C. (Marshville in Union Co.).

*Smithistruma carolinensis* W. L. Brown, 1964. Amer. Ent. Soc. Trans. 89: 185-186, pl. 16, fig. 1, ♂.

*cloydi* Pfitzer.

Taxonomy: Brown, 1964, loc. cit. supra, p. 191.

*clypeata* (Roger). Ark., Ala., N. C. (Great Smoky Mts. Nat. Park at 2,000 ft.), N. J.

Taxonomy: G. C. and J. Wheeler, 1954. Psyche 61: 143 (larva). Biology: Wilson, 1953. Ent. Soc. Amer. Ann. 46: 486.

**creightoni** (M. R. Smith). N. C., Ga., Tenn.

**dietrichi** (M. R. Smith). N. C.

Taxonomy: G. C. and J. Wheeler, 1954. *Psyche* 61: 143 (larva).

Biology: Wilson, 1953, *loc. cit. supra*, p. 487.

**filirrhina** W. L. Brown. Mo.

**filitalpa** W. L. Brown. Ind. (Brown Co. State Park).

**laevinasis** (M. R. Smith). N. C., Ala.

Taxonomy: Brown, 1964, *loc. cit. supra*, p. 199 (*pilinasis-laevinasis* complex).

**missouriensis** (M. R. Smith). Iowa, Ill., N. C.

Taxonomy: G. C. and J. Wheeler, 1954. *Psyche* 61: 143 (larva).

Biology: Wilson, 1953, *loc. cit. supra*, pp. 485-486.

**ohioensis** (Kennedy and Schramm). Ga., Ind., N. J.

**ornata** (Mayr). Okla., Mich., Mo., Tenn., S. C., La., Ark., Tex., Del.

**pilinasis** (Forel). Mo., Ark., La., Tenn., N. C.

*Smithistruma (Smithistruma) brevisetosa* (M. R. Smith) (syn. by Brown, 1964, *loc. cit. supra*, p. 197).

Taxonomy: G. C. and J. Wheeler, 1954. *Psyche* 61: 143 (larva).—Brown, 1964, *loc. cit. supra*, p. 199 (*pilinasis-laevinasis* complex).

Biology: Wilson, 1953, *loc. cit. supra*, p. 485.

**pulchella** (Emery). Remove Iowa from range of states.

**reflexa** (L. G. Jr., and R. G. Wesson). Md.

**rostrata** (Emery).

Taxonomy: G. C. and J. Wheeler, 1954. *Psyche* 61: 144 (larva).

Biology: Wilson, 1953, *loc. cit. supra*, p. 485.

**talpa** (Weber). Ill. (Red Hills State Park).

Biology: Wilson, 1953, *loc. cit. supra*, p. 486.

#### Genus *TRICHOSCAPA* Emery, p. 829

Biology: Brown and Wilson, 1960 (1959). *Quart. Rev. Biol.* 34: 283.

**membranifera** (Emery). Calif. (near Stockton). Apparently introduced.

Taxonomy: G. C. and J. Wheeler, 1954. *Psyche* 61: 145 (larva).

Biology: Weber, 1952. *Amer. Mus. Novitates* No. 1554: 7.—Wilson, 1953, *loc. cit. supra*, pp. 483-485.—Brown, 1954. *Harvard Univ. Mus. Comp. Zool. Bul.* 112: 6.

#### Genus *QUADRISTRUMA* Brown, p. 829

Biology: Brown, 1954, *loc. cit. supra*, p. 6.—Brown and Wilson, 1960 (1959), *loc. cit. supra*, p. 281.

**emmae** (Emery).

Biology: Kempf, 1961. *Studia Ent.* 4: 516.

#### \*Genus *EURHOPALOTHRIX* Brown and Kempf

*Eurhopalothrix* Brown and Kempf, 1960. *Studia Ent.*, Petropolis (n.s.), 3: 202-203.

Type: *Rhopalothrix Bolau* Mayr. Desig. by Brown and Kempf, 1961.

Taxonomy: Brown and Kempf, 1961 (1960): *Psyche* 67: 44.

Place after genus *Quadristruma* Brown, p. 829.

\***floridana** Brown and Kempf. Fla. (Highlands Hammock, Highlands County).

*Eurhopalothrix floridana* Brown and Kempf, 1960. *Studia Ent.*, Petropolis (n.s.) 3: 207-208, fig. 34 (in key, p. 246). ♀.

**CYPHOMYRMEX** subgenus **CYPHOMYRMEX** Mayr, pp. 829-830

Biology: Weber, 1957. Ecology 38: 480-494, figs. 1-5 (cultivation of fungus).

**rimosus** (Spinola). Miss. (near Gulfport).

Taxonomy: Weber, 1958. Ent. Soc. Wash. Proc. 60: 259-260.—G. C. and J. Wheeler, 1960. Ent. Soc. Wash. Proc. 62: 28 (larva).

**CYPHOMYRMEX** subgenus **MYCETOSORITIS** W. M. Wheeler, p. 830

**hartmani** (W. M. Wheeler), corrected spelling of **hartmanni** (!) of catalog, p. 830.

Genus **TRACHYMYRMEX** Forel, pp. 830-831

Biology: Weber, 1960. Ent. News 71: 1-6 (comparison of worker and female behavior).

**septentrionalis** (McCook), changed status.

**Trachymyrmex septentrionalis obscurior** (W. M. Wheeler) (syn. by Weber, 1958. Ent. News 69: 52).

**Trachymyrmex septentrionalis seminole** (W. M. Wheeler) (syn. by Weber, 1958, *loc. cit. supra*, p. 53).

**septentrionalis obscurior** (W. M. Wheeler). Syn. of **septentrionalis** (McCook).

**septentrionalis seminole** (W. M. Wheeler). Syn. of **septentrionalis** (McCook).

**septentrionalis septentrionalis** (McCook). Raised to sp. rank.

Genus **ATTA** Fabricius, pp. 832-833

Revision: Borgmeier, 1959. Studia Ent. 2 (fasc. 1-4): 321-390, figs. 1-29.

Biology: Weber, 1962. Natural History (N. Y.) 61: 45-51, illus.—Smith, 1963. Ent. Soc. Wash. Proc. 65: 299-302.

**mexicana** (F. Smith). Extreme south. Ariz.; Mexico, Honduras, Guatemala, El Salvador.

Taxonomy: Borgmeier, 1959, Studia Ent. 2 (fasc. 1-4): 351-353, figs. 16, 28 (♀, ♀, ♂).

Biology: Smith, 1963, *loc. cit. supra*, pp. 299-302.

**texana** (Buckley). Thirteen parishes in western La., much of the eastern half of Tex.; States of Tamaulipas and Vera Cruz, Mexico.

Taxonomy: Borgmeier, 1959. Studia Ent. 2 (fasc. 1-4): 356-358, fig. 29 (♀, ♀, ♂).

Biology: Bennett, 1958. U. S. Dept. of Agr., For. Pest Leaflet 23, pp. 1-4, figs. 1-4.—Warter, Moser and Blum, 1962. La. Acad. Sci. Proc. 25: 42-46 (correlation between night hawk feeding and nuptial flights of *A. texana* and *Iridomyrmex pruinosus* (Rog.)).—Moser, 1962. Forests and People 12: 40-41, illus. (laboratory and field studies of nesting habits).—Moser, 1963. Ent. Soc. Amer. Ann. 56: 286-291, figs. 1-6, table 1 (contents and structure of nest in summer).—Smith, 1963, *loc. cit. supra*, pp. 299-302.

Physiology: Moser and Blum, 1963. Science 140: 1228 (trail marking substance, source and potency).

Subfamily **DOLICHODERINAE**

Morphology: Pavan, 1955. Riv. Sci. Nat., "Natura" 46: 135-145, figs. 1-6, table 1.

Physiology: Pavan and Trave, 1958. Insectes Sociaux 5: 299-308 (venom of *Tapinoma nigerrimum* Nyl.).—Torossian, 1959. *Ibidem*, 6: 369-374, pl. 1 (tropholactic and proctodeal exchange in *Dolichoderus quadripunctatus* (L.)).—Wilson and Pavan, 1960 (1959). Psyche 66: 70-76, tables 1-2 (glandular sources of chemical releasers of social behavior).

**DOLICHODERUS** subgenus **HYPOCLINEA** Mayr, pp. 833-835

Taxonomy: G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 149-154, figs., maps 24, 25.

Biology: Kannoowski, 1959. *Insectes Sociaux* 6: 144-145 (flights comparisons of species).—Torossian, 1960. *Insectes Sociaux* 7: 383-393, figs. 1-3 (biology of *Dolichoderus quadripunctatus* (L.)).

Morphology: Eisner, 1957. Harvard Univ., Mus. Compar. Zool. Bul. 116: 453-454, pl. 2, fig. 7 (proventriculus).

**mariae** Forel.

Biology: Talbot, 1956. *Psyche* 63: 134-139 (flight activities).—Kannoowski, 1959, *loc. cit. supra*, 129-133.

**plagiatus** (Mayr).

Biology: Kannoowski, 1959, *loc. cit. supra*, p. 133.—G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 149-151, map.

**pustulatus** Mayr.

Biology: Kannoowski, 1959, *loc. cit. supra*, pp. 133-134 (155, pleometrosis).

**taschenbergi** (Mayr).

Biology: Kannoowski, 1959. *Ent. Soc. Amer. Ann.* 52: 755-760, figs. 1-3 (flight activities).—G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 151-154, fig., map.

**Genus LIOMETOPUM** Mayr, p. 835

Morphology: Eisner, 1957, *loc. cit. supra*, p. 455, pl. 5, fig. 22 (proventriculus).

**apiculatum** Mayr.

Biology: Gregg, 1963. Univ. Colo. Studies, Series in Biol. No. 11, pp. 1-6, figs. 1, 2.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 438-441, map.

**occidentale luctuosum** W. M. Wheeler.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 441-443, map.

**Genus IRIDOMYRMEX** Mayr, pp. 835-836

Morphology: Eisner, 1957, *loc. cit. supra*, pp. 459-460, pl. 7, fig. 32; pl. 8, fig. 34 (proventriculus).

**humilis** (Mayr).

Biology: Flanders, 1943. *Calif. Citrograph* 28: 117, 128, 137, illus. (Argentine ant versus parasites of black scale).—McCluskey, 1958. *Science* 128: 536-537, fig. 1 (daily rhythm in male Argentine ant).

Morphology: Pavan, 1955. *Soc. Ital. di Sci. Nat. Atti* 94: 379-477, figs. 1-32; pls., tables 1-8, illus.—Nachtwey, 1963. *Insectes Sociaux* 10: 50-53, figs. 3, 4; photograph 8.

Physiology: Pavan, 1950 (1948). 8th Internatl. Cong. Ent. Proc., Stockholm, pp. 863-865, illus.—Weber, 1961. *Ent. Soc. Wash. Proc.* 63: 218 (use of poison).—Torossian, 1961. *Insectes Sociaux* 8: 189-191.

**pruinus analis** (André). Calif. to Tex., Okla., and Kans., north to Idaho, and N. Dak.

Biology: G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 154-155, map.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 436-438, map.

**pruinus pruinus** (Roger). N. Y. to Fla. west to Wisc., Tex., and N. Mex.

Biology: Warter, Moser and Blum, 1962. *La. Acad. Sci. Proc.* 25: 42-46 (correlation between night hawk feeding and nuptial flights of *pruinus pruinus*.)

Physiology: Blum, Warter, Monroe and Chidester, 1963. *Jour. Ins. Physiol.* 9: 881-885, fig. 1 (chemical releasers of social behavior-methyl-n-amyl ketone).

Genus **FORELIUS** Emery, p. 836

**foetidus foetidus** (Buckley). Kans., Okla. and Tex. to Colo. and Calif., south to Mexico.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 434-436, map.

**DORYMYRMEX** subgenus **CONOMYRMA** Forel, p. 837

Morphology: Eisner, 1957, *loc. cit. supra*, pp. 463-464, pl. 7, fig. 33; pl. 8, fig. 37; pl. 10, fig. 46 (proventriculus).

**bicolor** W. M. Wheeler, changed status.

**Dorymyrmex (Conomyrma) pyramicus bicolor** W. M. Wheeler. Raised to sp. rank (*teste* Cole, 1958 (1957). N. Y. Ent. Soc. Jour. 65: 130).

Taxonomy: Wilson, 1958 (1957). Psyche 64: 76.

**pyramicus bicolor** W. M. Wheeler. Raised to sp. rank.

**pyramicus pyramicus** (Roger). Entire U. S. with the possible exception of New England States north of Conn., and Wash.

Taxonomy: Wilson, 1958 (1957). Psyche 64: 76.

Biology: Wilson 1958 (1957). Psyche 64: 48.—G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 155-157, map.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 432-434, map.

Genus **TAPINOMA** Foerster, pp. 837-838

Morphology: Eisner, 1957, *loc. cit. supra*, pp. 456-457, pl. 6, fig. 26 (proventriculus).

Physiology: Torossian, 1960. Insectes Sociaux 7: 171-174 (tropholactic and proctodeal in *Tapinoma erraticum* (Latreille)).—Weber, 1961. Ent. Soc. Wash. Proc. 63: 217-218 (use of poison).

**melanocephalum** (Fabricius).

Biology: King, 1948. Iowa Acad. Sci. Proc. 55: 395.—Kempf, 1961. Studia Ent. 4: 520.—Brown, 1964. Ent. News 75: 14-15.

Physiology: Weber, 1961, *loc. cit. supra*, p. 218 (employment of venom by ant).

**sessile** (Say).

Biology: Kannoowski, 1959. Insectes Sociaux 6: 126-129 (155, pleometrosis).—G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 157-160, map.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 443-447, map.

Subfamily **FORMICINAE**

Biology: Pontin, 1960. Insectes Sociaux 7: 227-230 (experiments in colony founding in *Lasius niger* (L.) and *Lasius flavus* (F.)).—Kannoowski, 1963. Pavia Univ., Atti IV Cong. U.I.E.I.S., v. 12, pp. 74-102, tables 1-7 (flight activities).

Morphology: Eisner and Wilson, 1952. Psyche 59: 47-60, fig. 1, pls. 5, A, B, C, D; pl. 6, A, B, (proventriculus).

\***PLAGIOLEPIS** subgenus **PLAGIOLEPIS** Mayr

**Plagiolepis** subg. **Plagiolepis** Mayr, 1861. Europ. Formicid., p. 42.

Type: *Formica pygmaea* Latreille. By monotypy.

Insert before **Brachymyrmex** Mayr, p. 838.

\***alluaudi** Emery. Calif. (Catalina Isl.). Introduced. An Old World species that has been widely disseminated by commerce.

Taxonomy: M. R. Smith, 1957. N. Y. Ent. Soc. Jour. 65: 195-198 (also biology).

Biology: Taylor and Wilson, 1961. Psyche 68: 143.

**BRACHYMYRMEX** subgenus **BRACHYMYRMEX** Mayr, pp. 838-839

Biology: Arnaud and Quate, 1951. Pan-Pacific Ent. 27: 171 (note on swarming).

**depilis** Emery. N. S. and B. C. south to Fla. and Calif.

Biology: G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 161-163, map.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 447-449, map.

**heeri** var. **obscurior** Forel. Raised to sp. rank.

**obscurior** Forel, changed status.

**Brachymyrmex (Brachymyrmex) heeri** var. **obscurior** Forel. Raised to sp. rank (*teste* Brown, 1957. Harvard Univ., Mus. Compar. Zool. Bul. 116: 237).

Morphology: Eisner, 1957. *Ibidem* 116(8), pl. 20, fig. 84 (cuticular framework of proventriculus of worker).

#### CAMPONOTUS subgenus CAMPONOTUS Mayr, pp. 839-842

Taxonomy: G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 163-170, figs., maps 30-32.

Biology: Riordan, 1960. *Insectes Sociaux* 7: 353-355 (location of nests of carpenter ants, *Camponotus* spp. by a radioactive isotope).

Morphology: Eisner, 1957, *loc. cit. supra*, pp. 470-473, pl. 15, fig. 67; pl. 16, fig. 68; pl. 17, figs. 70-74 (proventriculus).

**americanus** Mayr.

Morphology: Eisner and Wilson, 1952. *Psyche* 59: 47-60, fig. 1; pl. 5, A, B, C, D; pl. 6, A, B, C (proventriculus).

**herculeanus herculeanus** (Linnaeus).

Biology: G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 164-165, map.

Ecology: Brown, 1955. *Ent. News* 66: 47-48.—Gregg, 1963, *loc. cit. supra*, pp. 656-660, map.

Physiology: Ayre 1964 (1963). *Ent. Exp. and Appl.* 6: 165-170.

**herculeanus modoc** W. M. Wheeler.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 665-669, map.

**laevigatus** (F. Smith).

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 660-663, map.

**noveboracensis** (Fitch).

Biology: Kannowski, 1959. *Insectes Sociaux* 6: 134-135.—G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 165-168, figs., map.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 663-665, map.

**pennsylvanicus** (DeGeer).

Morphology: Forbes and McFarlane, 1961. *N. Y. Ent. Soc. Jour.* 69: 92-103, figs. 1-5 (comparative anatomy of digestive glands of female and male).—Keister, 1963. *Ent. Soc. Amer. Ann.* 56: 336-340, figs. 1-3 (anatomy of tracheal system).

Biology: Van Pelt, 1958. *Tenn. Acad. Sci. Jour.* 33: 120-122, fig. 1 (parasitism by a fungus).—G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 168-170, map.

#### CAMPONOTUS subgenus TANAEMYRMEX Ashmead, p. 843

**sansabeanus sansabeanus** (Buckley).

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 669-671, map.

**sansabeanus torrefactus** W. M. Wheeler. Colo., Nev.

**vicinus** Mayr. Alta., N. Dak. and Okla. to Calif. and B. C.

Biology: G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 170-171, map.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 671-675, map.

#### CAMPONOTUS subgenus MYRMOTHRIX Forel, pp. 843-844

**abdominalis floridanus** (Buckley). Dauphine and Horn Islands in the Gulf of Mexico.

#### CAMPONOTUS subgenus MYRMENTOMA Forel, pp. 844-845

Taxonomy: G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 171-174, figs., maps 34, 35.



**caryae discolor** (Buckley). N. Dak.

Biology: G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 172-173, map.

**nearcticus** Emery.

Biology: Kannoński, 1959. *Insectes Sociaux* 6: 134.—G. C. and J.

Wheeler, 1963, *loc. cit. supra*, pp. 173-174, map.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 675, 677, map.

**rasilis** W. M. Wheeler. N. C., Calif. (Imperial County).

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 677-679, map.

**subbarbatus** Emery. N. C., Md., N. Y.

**CAMPONOTUS** subgenus **COLOBOPSIS** Mayr, p. 846

**pylartes fraxinicola** M. R. Smith. N. C.

**mississippiensis** M. R. Smith. N. C., Md. (Plummers Island).

**PARATRECHINA** subgenus **PARATRECHINA** Motschoulsky, pp. 847-848

**longicornis** (Latreille).

Biology: Brown, 1964. *Ent. News* 75: 14-15.

Economics: Fox and Garcia-Moll, 1961. *Jour. Econ. Ent.* 54: 1065-1066, figs. 1-2.

**PARATRECHINA** subgenus **NYLANDERIA** Emery, pp. 848-849

**parvula** (Mayr). Ariz., N. Dak., ? Utah.

Biology: G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 175-176, map.

**Genus PRENOLEPIS** Mayr, pp. 849-850

**imparis coloradensis** W. M. Wheeler.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 496-498, map.

**LASIU** subgenus **LASIU** Fabricius, pp. 850-851

Taxonomy: G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 177-188, maps 37-40.—Gregg, 1963, *loc. cit. supra*, pp. 449-453.

Biology: Kannoński, 1959. *Insectes Sociaux* 6: 145-146 (flight comparisons).

**alienus** (Foerster).

Biology: Kannoński, 1959. *Insectes Sociaux* 6: 135-136.—Judd and Benjamin, 1958. *Canad. Ent.* 90: 419.—G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 178-179, map.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 454-457, map.

**crypticus** Wilson.

Biology: G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 179-182, map.

**neoniger** Emery.

Biology: Ayre, 1962. *Canad. Jour. Zool.* 40: 157-164, figs. 1-5 (parasitism).—G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 182-185, fig., map.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 457-461, map.

**sitkaensis** Pergande.

Biology: Medler, 1958. *Ent. Soc. Wash. Proc.* 60: 258 (emergence of males, winged females for flights).—G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 185-188, map.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 461-465, map.

**LASIU** subgenus **CAUTOLASIU** Wilson, Sup. 1, pp. 148-149

Taxonomy: Gregg, 1963, *loc. cit. supra*, pp. 449-453.

**flavus** (Fabricius). N. Dak.

Biology: G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 189-191, map.—Waloff, 1957. *Insectes Sociaux* 4: 391-408, tables 1-11 (effect of number of queens on their survival and the development of first brood).

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 465-469, map.

**nearcticus** W. M. Wheeler.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 469-471, map.

**LASIUS** subgenus **CHTHONOLASIUS** Ruzsky, pp. 851-852

Taxonomy: G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 191-194, maps 42, 43.—Gregg, 1963, *loc. cit. supra*, pp. 449-453.

Biology: Kownowski 1959. *Insectes Sociaux* 6: 145-146.

**\*atopus** Cole. Calif. (3 miles south of Leggett, Mendocino County).

**Lasius (Chthonolasius) atopus** Cole, 1958. *Tenn. Acad. Sci. Jour.* 33: 75-77, fig. 1, A, B. ♀.

**humilis** W. M. Wheeler.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 473-475, map.

**minutus** Emery.

Biology: Kownowski, 1959. *Insectes Sociaux* 6: 136-138 (151-153, colony founding; possible parasitism on *Lasius alienus* (Foerster) and *Lasius sitkaënsis* (Pergande)).

Physiology: Kownowski, 1959. *Ecology* 40: 162-165 (radioactive phosphorus in study of colony distribution).

**speculiventris** Emery. Host ant, *Lasius minutus* Emery.

Biology: Kownowski, 1959, *loc. cit. supra*, pp. 138-141 (153-154, parasitism on *minutus* and possibly other *Lasius* spp.).

**subumbratus** Viereck.

Biology: G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 191-192, map.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 475-478 map.

**umbratus** (Nylander). N. Dak.

Biology: Kownowski, 1959, *loc. cit. supra*, p. 141 (154-155, possible parasitism of other *Lasius* spp.).—G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 192-194, map.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 478-481, map.

**Genus ACANTHOMYOPS** Mayr, *Sup.* 1, pp. 150-151

Taxonomy: G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 194-204, figs., maps 45-49.—Gregg, 1963, *loc. cit. supra*, pp. 449-453.

**claviger claviger** (Roger).

Biology: Talbot, 1963. *Ecology* 44: 549-557, tables 1-3, (local distribution, flight activities).—G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 195-197, map.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 481-482, map.

Physiology: Chadha, Eisner, Monro and Meinwald, 1962. *Jour. Ins. Physiol.* 8: 175-179, figs. 1-4 (citronellal and citral in mandibular gland secretions).

**claviger coloradensis** (W. M. Wheeler).

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 481, 483-484, map.

**interjectus interjectus** (Mayr).

Biology: Talbot, 1963. *Ecology* 44: 549-557, tables 1-3 (local distribution, flight activities).—G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 197-200, figs., map.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 484-486, map.

**latipes** (Walsh).

Biology: Talbot, 1963. *Ecology* 44: 549-557, tables 1-3 (local distribution flight activities).—G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 200-202, fig., map.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 486-488, map.

**murphyi** (Forel).

Biology: Talbot, 1963. *Ecology* 44: 549-557, tables 1-3 (local distribution, flight activities).

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 489-490, map.

**occidentalis** (W. M. Wheeler). N. Dak., ? Wis.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 490-493, map.

**parvulus** (M. R. Smith). Ill., N. Dak.

Biology: G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 202-203, map.

**pogonogynus** (Buren). Idaho.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 493-494, map.

**subglaber** (Emery). Wis., Tenn.

Biology: G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 203-204, map.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 493. 495-496, map.

**Genus MYRMECOCYSTUS Wesmael, pp. 854-857**

**comatus** W. M. Wheeler. Colo.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 643-645, map.

**lugubris** W. M. Wheeler. Nev., Ariz.

**mendax** W. M. Wheeler.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 645-648, map.

**mexicanus hortideorum** McCook.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 648-651, map.

**navajo** W. M. Wheeler. Colo.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 651-653, map.

**pyramicus** M. R. Smith. Calif., Idaho.

Taxonomy: Cole, 1958 (1957). N. Y. Ent. Soc. Jour. 65: 129-130 (♀, ♂).

**semirufus** Emery.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 653-655, map.

**FORMICA subgenus PROFORMICA Ruzsky, p. 857**

Taxonomy: G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 206-214, figs., maps 50-53.

**bradleyi** W. M. Wheeler.

Biology: G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 206-209, fig., map.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 602-606, map.

**lasioides** Emery. Coast to coast in south. Canada and north. U. S. with extensions in Rocky Mts. to N. Mex. and Appalachians.

Biology: Kincaid, 1963. Amer. Micros. Soc. Trans. 82: 101-105, figs. 1-5, (as pollinators of plants).—G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 209-211, map.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 498-500, 502, map.

**limata** W. M. Wheeler. Utah.

Biology: G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 211-212, map.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 502, 504 map.

**manni** W. M. Wheeler.

**Formica (Formica) manni** W. M. Wheeler. Transf. by Wilson and Brown, 1955. Psyche 62: 126.

Taxonomy: Wilson and Brown, 1955, *loc. cit. supra*, pp. 127-128.

**neogagates** Emery. Coast to coast in south. Canada and north. U. S. with extensions in the Appalachians to N. C. and in the Rocky Mts. to N. Mex. Slave of *Formica wheeleri* Creighton.

Biology: G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 212-214, fig., map.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 503-505, map.

**obtusopilosa** Emery.

**Formica (Formica) obtusopilosa** Emery. Transf. by Wilson and Brown, 1955. Psyche 62: 128.

Taxonomy: Wilson and Brown, 1955, *loc. cit. supra*, p. 128.

Biology: G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 217-219, fig., map.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 608-611 map.

**perpilosa** W. M. Wheeler. Wyo.

**Formica (Formica) perpilosa** W. M. Wheeler. Transf. by Wilson and Brown, 1955. *Psyche* 62: 128.

Taxonomy: Wilson and Brown, 1955, *loc. cit. supra*, p. 128.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 611-613, map.

**FORMICA subgenus NEOFORMICA** W. M. Wheeler, pp. 858-860

Biology: Kannoński, 1959. *Insectes Sociaux* 6: 147 (flight comparisons).

**pallidefulva pallidefulva** Latreille.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 625-628, map.

**pallidefulva nitidiventris** Emery.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 628-630, map.

**schaufussi dolosa** W. M. Wheeler. Va. to Fla. west to Iowa, Mo., Tex., and Colo.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 630-632.

**FORMICA subgenus FORMICA** Linnaeus, pp. 860-873

Taxonomy: G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 214-228, figs., maps 54-60 (*sanguinea* group); pp. 229-252, figs., maps 61-71 (*rufa* group); pp. 252-253, map 72 (*microgyna* group); pp. 254-258, figs., map 73 (*exsecta* group); pp. 258-274, figs., maps 74-79 (*fusca* group).

Biology: Gosswald, 1957. *Insectes Sociaux* 4: 335-348, tables 1-9 (caste determination in the genus *Formica*).—Kannoński, 1959. *Insectes Sociaux* 6: 147.

Morphology: Eisner, 1957, *loc. cit. supra*, pp. 473-474, pl. 25, figs. 100-103 (proventriculus).

Physiology: Osman and Kloft, 1961. *Insectes Sociaux* 8: 383-395 (venom).

**altipetens** W. M. Wheeler. N. Dak., Mont., and B. C. to Mex.

Biology: G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 260-261, map.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 507-509, map.

**aterrima** Cresson.

Taxonomy: Gregg, 1963, *loc. cit. supra*, pp. 544, 546.

**ciliata** Mayr. N. Dak. Temporary parasite of *Formica cinerea lepida* W. M. Wheeler.

Biology: G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 233-234, map.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 545-547, map.

**cinerea** var. **canadensis** Santschi. Syn. of **cinerea lepida** W. M. Wheeler.

**cinerea lepida** W. M. Wheeler. Sask., Utah, Tex. Host of temporary parasites, *Formica ciliata* Mayr, *F. dakotensis* Emery and *F. criniventris* W. M. Wheeler.

**Formica (Formica) cinerea** var. **canadensis** Santschi (syn. by M. R. Smith, 1960. *Ent. Soc. Wash. Proc.* 62: 251-252).

Biology: G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 261-263, map.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 509-512, 514, map.

**cinerea montana** Emery. Ohio to Dakotas, Nebr., Colo., and N. Mex.

Biology: G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 263-264, map.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 513-514, map.

**comata** W. M. Wheeler. N. Dak.

Biology: G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 547-548, 550, map.

**criniventris** W. M. Wheeler. Probably a temporary parasite of *F. cinerea lepida* W. M. Wheeler.

Biology: G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 234-236, fig., map.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 549-551, map.

**curiosa** Creighton.

Taxonomy: Wilson and Brown, 1955. *Psyche* 62: 123-125, fig. 2.

**dakotensis** Emery. Alaska, Nev., N. Dak., Ohio.

*Formica (Formica) dakotensis* var. *montigena* W. M. Wheeler (syn. by Brown, 1957. Ent. News 68: 167).

Biology: G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 236-238, map.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 551-554, map.

**dakotensis** var. *montigena* W. M. Wheeler. Syn of *dakotensis* Emery.

**densiventris** Viereck. Utah.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 589-593, map.

**exsectoides** Forel. Miss. (Holly Springs).

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 597-599, map.

Physiology: Eisner and Happ, 1964. Sci. 134: 329-331, figs. 1-4 (haemorrhage of a coccinellid beetle and its repellent effect on ants).

**fossiceps** Buren. N. Dak.

Biology: King, 1949. Iowa Acad. Sci. Proc. 56: 367-370 (mixed colony with *F. obscuriventris clivia* Creighton).—King, 1951. *Op. cit.*, pp. 487-489.—King, 1952. *Op. cit.*, pp. 469-474, figs. 1, 2 (macropseudogynes, or ? pterergates).—King and Sallee, 1957. *Op. cit.* 64: 667-669, table 1 (mixed colony with *F. obscuriventris clivia*).—King and Sallee, 1959. *Op. cit.* 66: 472-473 (slave of *F. rubicunda* Emery).—King and Sallee, 1962. *Op. cit.* 69: 531-539, figs. 1-12, table 1 (mixed colony with *F. obscuriventris clivia*).—G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 238-239, map.

**fusca** Linnaeus. Holarctic. Labrador and Alaska south through Canada. Occurs in every state in U. S., but absent from certain unfavorable habitats, such as deserts.

Biology: King, 1949. Iowa Acad. Sci. Proc. 56: 367-370 (in mixed colony with *Formica reflexa* Buren).—King, 1951. *Op. cit.* pp. 487-489 (*ibidem*).—Kannowski, 1959. Insectes Sociaux 6: 141-142.—Wallis, 1960. *Op. cit.* 7: 187-190, figs. 1-8, tables 1-2 (spinning movements of larvae).—G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 264-267, map.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 514-525, map.

**hewitti** W. M. Wheeler.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 526-527, map.

**integra haemorrhoidalis** Emery.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 854-857, map.

**integroides coloradensis** W. M. Wheeler.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 557-560, map.

**integroides planipilis** Creighton. Utah, Colo., Wyo., N. Dak., Wash.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 560-561, map.

**integroides propinqua** W. M. Wheeler. Colo., Utah.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 562-564, map.

**laeviceps** Creighton. N. Dak., Colo.

Biology: G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 239-240, map.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 564-565, map.

**manni** W. M. Wheeler. Transf. to *Formica* subg. *Proformica* Ruzsky, p. 857.

**marcida** W. M. Wheeler. N. Dak., S. Dak.

Biology: G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 267-268, map.

**mucescens** W. M. Wheeler.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 566-567, map.

**microgyna** W. M. Wheeler. Wyo., Utah, N. Mex.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 584-587, map.

**neoclara** Emery.

Biology: G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 268-271, fig., map.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 526, 528-530, map.

- neurufibarbis gelida** W. M. Wheeler. Calif. to Alaska to Sask. and south through Rocky Mts. to N. Mex.  
Ecology: Gregg, 1963, *loc. cit. supra*, pp. 533-536, map.
- neurufibarbis neurufibarbis** Emery. Nebr.  
Biology: Kannonowski, 1959. Insectes Sociaux 6: 142.—G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 271-273, map.  
Ecology: Brown, 1955. Ent. News 66: 47-50.—Gregg, 1963, *loc. cit. supra*, pp. 530-533, map.
- obscuripes obscuripes** Forel. South. Canada and north. U. S. from Ind. and Mich. to Calif. and B. C., also the Rocky Mt. states.  
Biology: King and Sallee, 1957. Iowa Acad. Sci. Proc. 63: 721-723, tables 1-3.—Talbot, 1959. Amer. Midland Nat. 61: 124-128 (flight activities).—G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 240-244, fig., map.  
Ecology: Gregg, 1963, *loc. cit. supra*, pp. 566, 568-572, map.
- obscuripes ravidia** W. M. Wheeler. Colo.  
Ecology: Gregg, 1963, *loc. cit. supra*, pp. 579-581, map.
- obscuriventris clivia** Creighton. Colo., N. Mex.  
Biology: King, 1949. Iowa Acad. Sci. Proc. 56: 367-370 (mixed colony with *Formica fossiceps* Buren).—King and Sallee, 1951. *Op. cit.* 58: 487-489 (*ibidem*).—King, 1955. *Op. cit.* 62: 509-513, figs. 1, 2 (winged workers).—King and Sallee, 1959. *Op. cit.* 66: 472-473 (slave of *Formica rubicunda* Emery).—King and Sallee, 1962. *Op. cit.* 69: 531-539, figs. 1-12, table 1 (mixed colonies with *Formica fossiceps* Buren).  
Ecology: Gregg, 1963, *loc. cit. supra*, pp. 574-577, map.
- obscuriventris obscuriventris** Mayr.  
Biology: G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 244-246, map.  
Ecology: Gregg, 1963, *loc. cit. supra*, 572-574, map.
- obtusopilosa** Emery. Transf. to *Formica* subg. *Proformica* Ruzsky, p. 858.
- opaciventris** Emery. N. Dak.  
Biology: Scherba, 1961. N. Y. Ent. Soc. Jour. 69: 71-87, tables 1-6 (reproduction, nest structure).—Scherba, 1963. *Op. cit.* 71: 219-231, tables 1-6, figs. 1-3.—G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 254-256, map.
- oreas comptula** W. M. Wheeler.  
Biology: G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 246-248, map.
- oreas oreas** W. M. Wheeler.  
Ecology: Gregg, 1963, *loc. cit. supra*, pp. 577-579, map.
- oregonensis** Cole.  
Biology: Kincaid, 1963. Amer. Micros. Soc. Trans. 82: 101-105, figs. 1-5 (pollinates a plant).  
Taxonomy: Cole, 1956. Tenn. Acad. Sci. Jour. 31: 212-214.
- parcipappa** Cole.  
Taxonomy: Wilson and Brown, 1955. Psyche 62: 125.
- perpilosa** W. M. Wheeler. Transf. to *Formica* subg. *Proformica* Ruzsky, p. 858.
- postoculata** Kennedy and Dennis. Pa. (Mt. Morris).
- pruinosa** W. M. Wheeler.  
Ecology: Gregg, 1963, *loc. cit. supra*, pp. 537-539, map.
- puberula** Emery.  
Biology: G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 220-221, map.  
Ecology: Gregg, 1963, *loc. cit. supra*, pp. 613-616 map.
- rasilis** W. M. Wheeler.  
Ecology: Gregg, 1963, *loc. cit. supra*, pp. 587-589, map.
- reflexa** Buren. N. Dak.  
Biology: King, 1949. Iowa Acad. Sci. Proc. 56: 367-379 (mixed colony

with *fusca* L.).—King, 1951. *Op. cit.* 487-489 (*ibidem*).—G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 249-250, map.

**rubicunda** Emery.

Biology: King and Sallee, 1959. Iowa Acad. Sci. Proc. 66: 472-473 (slaves—*Formica fossiceps* Buren and *F. obscuriventris clivia* Creighton).—G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 221-223, map.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 616-618, map.

**rufibarbis gnava** Buckley.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 539-541, map.

**spatulata** Buren.

Biology: G. C. and J. Wheeler, 1963, *loc. cit. supra*, p. 253, map.

**subintegra** Emery.

Biology: Brown, 1959 (1958). *Psyche* 65: 39-40.—G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 225-227, map.

**sublucida** W. M. Wheeler. New England states to S. Dak., Colo.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 622-623, map.

**subnitens** Creighton. N. Dak., Oreg., Colo.

Taxonomy: Miller, 1957. *Insectes Sociaux* 4: 253-257, figs. 1-4 (♀, ♀, ♂).

Biology: Ayre, 1957. *Insectes Sociaux* 4: 173-176 (ecological notes).—Ayre, 1958. *Op. cit.* 5: 1-7.—Ayre, 1958. *Op. cit.* 5: 147-157, fig. 1 (meteorological factors affecting foraging).—Ayre, 1959. *Op. cit.* 6: 105-114, figs. 1-3 (food habits).

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 581-584, map.—G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 250-252, map.

**subnuda** Emery.

Biology: G. C. and J. Wheeler 1963, *loc. cit. supra*, pp. 223-225, map.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 618-621, map.

**subpolita ficticia** W. M. Wheeler.

Ecology: Gregg 1963, *loc. cit. supra*, pp. 541-542, map.

**ulkei** Emery. Iowa, Ind., Wyo.

Biology: Scherba, 1958. *Insectes Sociaux* 5: 201-213, figs. 1-5 (reproduction, mounds).—Kannowski, 1959. *Op. cit.* 6: 142-143.—Talbot, 1959. *Amer. Midland Nat.* 61: 128-132 (flight activities).—Scherba, 1959, *Op. cit.* 61: 499-508, figs. 1-2 (moisture regulations in mounds).—Talbot, 1961. *Ecology* 42: 202-205 (mounds).—Scherba, 1962. *Amer. Midland Nat.* 67: 373-385, figs. 1-4 (mound temperatures).—G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 256-258, fig., map.

**wheeleri** Creighton. N. Dak. Slave: *Formica neogagates* Emery.

Biology: G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 227-228, map.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 623-625, map.

**whymperi alpina** W. M. Wheeler.

Taxonomy and Ecology: Gregg, 1963, *loc. cit. supra*, pp. 593-596 (♀).

**Genus POLYERGUS Latreille, pp. 873-875**

Taxonomy: G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 274-277, figs., maps 80, 81.

Biology: Dobrzanska and Dobrzanska, 1960. *Insectes Sociaux* 7: 1-8 (new observations on *Polyergus rufescens* Latr.).

Morphology: Forbes and Brassel, 1962. *N. Y. Ent. Soc. Jour.* 70: 79-87, pl. 1, figs. 1-5; pl. 2, figs. 8-19 (male genitalia and terminal segments of *Polyergus rufescens bicolor* Wasmann, *P. r. breviceps* Emery, *P. r. umbratus* W. M. Wheeler, and *P. lucidus* Mayr).

**lucidus longicornis** M. R. Smith. Ga., N. C.

**lucidus lucidus** Mayr. N. Dak., Ark., Colo.

Biology: G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 274-275, map.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 633-635, map.

**rufescens bicolor** Wasmann. Colo.

Taxonomy: G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 275-277, map (as *rufescens* Latr.).

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 635-638, map.

**rufescens breviceps** Emery.

Taxonomy: G. C. and J. Wheeler, 1963, *loc. cit. supra*, pp. 275-277, map (as *rufescens* Latr.).

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 638-641, map.

**rufescens umbratus** W. M. Wheeler. Colo.

Ecology: Gregg, 1963, *loc. cit. supra*, pp. 641-643, map.

## Superfamily VESPOIDEA

## Family VESPIDAE

Taxonomy: Bohart and Bechtel, 1957. Calif. Ins. Survey Bul. 4: 73-101, 34 text figs., 7 maps, 2 pls. (social Vespidae of Calif.).—Richards, 1962. A Revisional Study of the Masarid Wasps, 294 pp., 241 figs.

Biology: Krombein, 1961. Wash. Acad. Sci. Jour. 51: 89-93, 6 figs. (symbiosis between saprogllyphid mites and solitary vespids wasps).

Richards (1962) proposed dividing the Vespidae into three families. In North America the Vespidae would include the social wasps (Vespinae, Polistinae and Polybiinae of the Catalog), and the solitary wasps would be assigned to the Eumenidae (Zethinae and Eumeninae of the Catalog) and the Masaridae (Masarinae and Euparagiinae of the Catalog).

## Genus VESPA Linnaeus, p. 875

**crabro germana** Christ. W. Va., Ohio, Ind., Ala.

## Genus VESPULA Thomson, pp. 875-877

Revision: Miller, 1961. Canad. Ent., Supp. 22, Vol. 93, 52 pp.

## VESPULA subgenus VESPULA Thomson, pp. 875-877

**acadica** (Sladen), changed status.

*Vespula (Vespula) rufa acadica* (Sladen). Restored to sp. rank (*teste* Miller, 1961, *loc. cit. supra*, p. 15).

*Vespula (Vespula) rufa sladeni* Bequaert (syn. by Miller, 1961, *loc. cit. supra*, p. 15).

**atropilosa** (Sladen), changed status.

*Vespula (Vespula) rufa atropilosa* (Sladen). Restored to sp. rank (*teste* Miller, 1961, *loc. cit. supra*, p. 17).

**consobrina** (Saussure), changed status.

*Vespula (Vespula) rufa consobrina* (Saussure). Restored to sp. rank (*teste* Bohart and Bechtel, 1957, *loc. cit. supra*, p. 79).

**intermedia** (Buysson), changed status.

*Vespula (Vespula) rufa intermedia* (Buysson). Restored to sp. rank (*teste* Miller, 1961, *loc. cit. supra*, p. 23).

**maculifrons** (Buysson).

Biology: Haviland, 1962. Ent. Soc. Wash. Proc. 64: 181-183 (colony size).

**pensylvanica** (Saussure).

Biology: Chapman, 1963. Ecology 44: 766-767 (predation on winged ants).

**rufa acadica** (Sladen). Raised to sp. rank.

**rufa atropilosa** (Sladen). Raised to sp. rank.

**rufa consobrina** (Saussure). Raised to sp. rank.



*rufa intermedia* (Buysson). Raised to sp. rank.

*rufa sladeni* Bequaert. Syn. of *acadica* (Sladen).

*rufa vidua* (Saussure). Raised to sp. rank.

*vidua* (Saussure), changed status.

*Vespula (Vespula) rufa vidua* (Saussure). Restored to sp. rank (*teste* Miller, 1961, *loc. cit. supra*, p. 26).

VESPULA subgenus DOLICHOVESPULA Rohwer, p. 877

*adulterina adulterina* (Buysson). Delete; the color variant in western North America thought to be typical *adulterina* from Asia is just a variation of *arctica* Rohwer.

*adulterina arctica* Rohwer. Raised to sp. rank.

*albida* (Sladen), changed status.

*Vespula (Dolichovespula) norvegica albida* (Sladen). Restored to sp. rank (*teste* Miller, 1961, *loc. cit. supra*, p. 28).

*arctica* Rohwer, changed status.

*Vespula (Dolichovespula) adulterina arctica* Rohwer. Restored to sp. rank (*teste* Miller, 1961, *loc. cit. supra*, p. 30).

*arenaria* (Fabricius), changed status.

*Vespula (Dolichovespula) arenaria arenaria* (Fabricius). Raised to sp. rank (*teste* Bohart and Bechtel, 1957, *loc. cit. supra*, p. 88).

*Vespula (Dolichovespula) arenaria fernaldi* (Lewis) (syn. by Bohart and Bechtel, 1957, *loc. cit. supra*, p. 88).

*arenaria fernaldi* (Lewis). Syn. of *arenaria* (Fabricius).

*norvegicoides* (Sladen), changed status.

*Vespula (Dolichovespula) norvegicoides* (Sladen). Restored to sp. rank (*teste* Miller, 1961, *loc. cit. supra*, p. 36).

*norvegica albida* (Sladen). Raised to sp. rank.

*norvegica norvegicoides* (Sladen). Raised to sp. rank.

Genus POLISTES Latreille, pp. 878-879

*annularis* (Linnaeus).

Biology: Rabb, 1960. Ent. Soc. Amer. Ann. 53: 111-121.—Balduf, 1961. Ent. News 72: 259-260.

*exclamans exclamans* Viereck. Md., N. J.

Biology: Hodapp and Bickley, 1959. Ent. Soc. Wash. Proc. 61: 73.—Rabb, 1960, *loc. cit. supra*, pp. 111-121.

*fuscatus fuscatus* (Fabricius).

Biology: Rabb, 1960, *loc. cit. supra*, pp. 111-121.

Genus PSEUDOMASARIS Ashmead, pp. 882-883

Taxonomy: Richards, 1962. A Revisional Study of the Masarid Wasps, pp. 276-281, figs. 236-241 (revised key and places the subgenera *Toryna* Bradley and *Holopticus* Bradley in synonymy).

Revision: Richards, 1963. Univ. Calif. Pubs. Ent. 27: 283-310, 3 pls., 26 text figs.

*bariscipus* Bradley. Syn. of *basirufus* Rohwer.

*basirufus* Rohwer. Ariz., Calif.

*Pseudomasaris (Holopticus) maculifrons* (Fox), of Catalog in part. Remove *zonalis basirufus* Rohwer from syn. (*teste* Richards, 1962, *loc. cit. supra*, p. 281).

*Pseudomasaris (Holopticus) bariscipus* Bradley (syn. by Richards, 1962, *loc. cit. supra*, p. 281).

*coquilletti* Rohwer. Ariz.

*edwardsii* (Cresson). Mexico (Baja California).

\**macneilli* Bohart. Calif., Utah.

*Pseudomasaris macneilli* Bohart, in Richards, 1963. Univ. Calif. Pubs. Ent. 27: 291. ♂, ♀.

\**macswaini* Bohart. Southern Calif.

*Pseudomasaris macswaini* Bohart, in Richards, 1963. Univ. Calif. Pubs. Ent. 27: 301. ♂, ♀.

*maculifrons* (Fox). Utah, N. Mex.; Mexico (Sonora, Baja California). Remove *basirufus* Rohwer, a valid sp., from syn.

*marginalis* (Cresson). Nev., Wash., B. C.

*Pseudomasaris (Holopticus) rohweri* Bradley (syn. by Richards, 1962, loc. cit. supra, p. 280).

\**micheneri* Bohart. Calif. (Inyo Co.).

*Pseudomasaris micheneri* Bohart, in Richards, 1963. Univ. Calif. Pubs. Ent. 27: 298, figs. 1, 14, 21. ♂, ♀.

*occidentalis* (Cresson). Kans., N. Mex.

*rohweri* Bradley. Syn. of *maculifrons* (Fox).

*texanus* (Cresson). Ariz.

*vespoides* (Cresson). Wash., Mont.; Mexico (Baja California).

*zonalis* (Cresson). Mont., Nebr.

*Pseudomasaris (Pseudomasaris) zonalis albopictus* Bohart (syn. by Richards, 1962, loc. cit. supra, p. 280).

*zonalis albopictus* Bohart. Syn. of *zonalis* (Cresson).

### Subfamily EUPARAGIINAE

Taxonomy: Richards, 1962. A Revisional Study of the Masarid Wasps, pp. 49-51, figs. 47-54.

#### Genus EUMENES Latreille, pp. 884-885

*aureus* Isely.

Biology: Linsley, 1962. Ent. Soc. Amer. Ann. 55: 152-153, figs. 1, 2.

*crucifera bolliformis* Viereck.

Biology: Linsley, 1962, loc. cit. supra, p. 153.

*iturbide iturbide* Saussure.

Biology: Linsley, 1962, loc. cit. supra, p. 153.

#### Genus MONOBIA Saussure, p. 886

*quadridens* (Linnaeus). Prey: Stenomidae (?) sp., larva.

Biology: Krombein, 1958. Ent. Soc. Wash. Proc. 60: 101.

#### Genus EUODYNERUS Dalla Torre

(= *Ryggium* Spinola of Catalog, pp. 887-892)

*Ryggium* is restricted to the Old World (*teste* van der Vecht, 1963, Zool. Nomencl. Bul. 20: 234). The North American species formerly assigned to *Ryggium* should be placed in *Euodynerus* (*teste* R. M. Bohart, in litt.). Delete *Ryggium*, *Rychium* (!) and *Rhynchium*, *Rynchium*, *Leionotus* (genotype as listed is incorrect), *Rhyggium*, *Lionotus*, *Delphinaloides*, and *Allodynerus* from generic synonymy; these names apply to extralimital taxa. Add *Euodynerus* subg. *Syneuodynerus* Blüthgen (Soc. Ent. Ital. Boll. 81: 67, 1951; genotype, *Odynerus egregius* Herrich-Schaeffer, by orig. desig. and monotypy) to generic synonymy. Change all specific endings to masculine gender. All names are n. combs. in *Euodynerus*.

*annulatus arvensis* (Saussure), n. comb.

\**Odynerus cultus* Cresson, 1872. Amer. Ent. Soc. Trans. 4: 236. ♂.  
(Syn. of *annulatus arvensis*, *teste* R. M. Bohart, in litt.).

*annulatus evectus* (Cresson), n. comb.

Biology: Linsley, 1962. Ent. Soc. Amer. Ann. 55: 153-154.

**\*cultus** (Cresson). Syn. of **annulatus arvensis** (Saussure).

**foraminatus foraminatus** (Saussure), n. comb. Nests in sumac borings. Prey: Larvae of Gelechiidae, Oecophoridae, Olethreutidae, Pyralidae, Pyraustidae, Thyridae, Tortricidae.

Biology: Medler, 1964. Ent. Soc. Amer. Ann. 57: 56-60.

**hidalgo hidalgo** (Saussure), n. comb. In citation of **Odynerus ductus** Cresson, change 1875 to 1872.

Biology: Linsley, 1962. Ent. Soc. Amer. Ann. 55: 154.

**leucomelas** (Saussure), n. comb. Nests in wood borings.

Biology: Medler, 1964. Ent. News 75: 26-27.

**\*molestus boharti** (Krombein), n. comb. Fla.

**Rygius molestus boharti** Krombein, 1959. Ent. Soc. Wash. Proc. 61: 145, fig. 1. ♂, ♀.

**molestus molestus** (Saussure), n. comb. and changed status. Prey: *Desmia funeralis* (Hbn.), larva.

**Rygius molestus** (Saussure). Reduced to subsp. rank (*teste* Krombein, 1959, *loc. cit. supra*, p. 148).

**Rygius turpe** (Saussure) (syn. by Krombein, 1959, *loc. cit. supra*, p. 148).

Biology: Krombein, 1958. Ent. Soc. Wash. Proc. 60: 101.

**\*schwarzi** (Krombein), n. comb. N. J., Pa., Md., D. C., Va., Okla. Nests in borings in wood.

**Rygius schwarzi** Krombein, 1962. Biol. Soc. Wash. Proc. 75: 5. ♂, ♀.

**turpe** (Saussure). Syn. of **molestus molestus** (Saussure).

#### Genus ANCISTROCERUS Wesmael, pp. 892-896

**catskill catskill** (Saussure). Nests in abandoned cells of *Anthophora occidentalis* Cr. in clay bank.

Biology: Hobbs, Nummi, and Virostek, 1961. Canad. Ent. 93: 144.

**lineiventris fulvicarpus** Cameron.

Biology: Linsley, 1962. Ent. Soc. Amer. Ann. 55: 154-155, fig. 3.

**tigris tigris** (Saussure). Nesting in cocoons of *Diprion similis* (Htg.).

Biology: Coppel, 1961. Ent. News 72: 246-248, 2 figs.

**tuberculeps sutterianus** (Saussure). Replaces **tuberculocephalus sutterianus** (Saussure).

**tuberculeps tuberculeps** (Saussure). Replaces **tuberculocephalus tuberculocephalus** (Saussure).

**tuberculocephalus sutterianus** (Saussure). Change to **tuberculeps sutterianus** (Saussure).

**tuberculocephalus tuberculocephalus** (Saussure). Change to **tuberculeps tuberculeps** (Saussure).

**waldenii flavidulus** Bequaert. Prey: Larvae of *Cnephasia longana* (Haw.), *Archips argyrospilus* (Wlkr.).

Biology: Richards, 1962. Pan-Pacific Ent. 38: 145-146.

**waldenii waldenii** (Viereck). Nesting in cavities in mortar.

Biology: Morris, 1959. Canad. Ent. 91: 500.

#### Genus SYMMORPHUS Wesmael, p. 896

**albomarginatus** (Saussure). Md.

**cristatus cristatus** (Saussure). Md. (Plummers Island).

#### Genus LEPTOCHILUS Saussure, pp. 896-898

**ornatus ornatus** Saussure. Replaced by **republicanus republicanus** (Dalla Torre), a substitute name.

**ornatus zendaloides** (Robertson). Replaced by **republicanus zendaloides** (Robertson).

**republicanus republicanus** (Dalla Torre).

*Leptochilus ornatus ornatus* Saussure, a secondary homonym in *Odynerus* for which **republicanus** was proposed as a substitute name.

**republicanus zendaloides** (Robertson). Nests in sumac (*Rhus*) stems and preys on leaf-mining coleopterous larvae, *Brachys*, *Chalepus*, *Prionomerus*.

*Leptochilus ornatus zendaloides* (Robertson). **Ornatus** is a secondary homonym and **republicanus** was proposed as a substitute name.

Biology: Krombein, 1959. Ent. News 70: 17-23.

**tylocephalus tylocephalus** (Bohart). Prey: Gracilariid leaf-miner in *Galactia*.

Biology: Krombein, 1964. Amer. Mus. Novitates 2201: 10.

**STENODYNERUS** subgenus **STENODYNERUS** Saussure, pp. 898-901

**fundatiformis fundatiformis** (Robertson). Nests in ground. Prey: Larvae of Coleoptera (*Chlamisus* in Chrysomelidae) and Lepidoptera (Psychidae, Geometridae, Gelechiidae, Olethreutidae).

Biology: Krombein, 1964. Amer. Mus. Novitates 2201: 4-10.

**fundatus** (Cresson). Asterisk should precede specific heading on p. 166, Sup. 1.

**ochrogonius** Bohart.

Biology: Linsley, 1962. Ent. Soc. Amer. Ann. 55: 155-156, fig. 3.

**pulvinatus pulvinatus** Bohart, changed status.

*Stenodynerus (Stenodynerus) pulvinatus* Bohart. Reduced to subsp. rank (*teste* Krombein, 1959. Ent. Soc. Wash. Proc. 61: 149).

\***pulvinatus surrufus** Krombein. Fla.

*Stenodynerus (Stenodynerus) pulvinatus surrufus* Krombein, 1959. Ent. Soc. Wash. Proc. 61: 149. ♂, ♀.

**taos** (Cresson).

Biology: Linsley, 1962. Ent. Soc. Amer. Ann. 55: 156.

**STENODYNERUS** subgenus **PARANCISTROCERUS** Bequaert, pp. 901-903

**perennis perennis** (Saussure). Nest in boring in sumac pith. Prey: larvae of sp. of Blastobasidae.

Biology: Krombein, 1960. Ent. News 71: 33.

\***vogti** Krombein. Md. (Plummers Island). Nests in borings in wood.

*Stenodynerus (Parancistrocerus) vogti* Krombein, 1962. Biol. Soc. Wash. Proc. 75: 6. ♀.

## Family POMPILIDAE

Taxonomy: Evans, 1959. Ent. Soc. Amer. Ann. 52: 430-444, 51 figs. (larvae).

Biology: Evans and Yoshimoto, 1962. Ent. Soc. Amer. Misc. Publ. 3: 65-119 (northeastern spp.).

Genus **HEMIPEPSIS** Dahlbom, p. 909

**ustulata ochroptera** Stål.

Taxonomy: Evans, 1959, *loc. cit. supra*, pp. 432-433, fig. 42 (larva).

Genus **PEPSIS** Fabricius, pp. 909-910

**formosa formosa** (Say). Prey: *Aphonopelma chalcodes* Chamb.

Biology: Cazier and Mortenson, 1964. Ent. Soc. Amer. Ann. 57: 533-541, 8 figs.

**mexicana** Lucas.

Taxonomy: Evans, 1959, *loc. cit. supra*, pp. 431-432, fig. 41 (larva).

**thisbe** Lucas.

Taxonomy: Evans, 1959, *loc. cit. supra*, p. 431, figs. 1-7, 40 (larva).

Genus **PRIOCNESSUS** Banks, p. 911

**nebulosus** (Dahlbom). Prey: *Agelenopsis potteri* Blackw., A. sp.

Biology: Kurczewski, 1961. Brooklyn Ent. Soc. Bul. 56: 23.—Evans and Yoshimoto, 1962, *loc. cit. supra*, pp. 100-101.

Genus **PRIOCNEMIOIDES** Radoszkowski, p. 911

**unifasciatus californicus** Townes. Prey: *Lycosa pacifica* Bks.

**unifasciatus unifasciatus** (Say). Prey: *Lycosa rabida* Walck.

Biology: Evans and Yoshimoto, 1962, *loc. cit. supra*, p. 100.

Genus **CRYPTOCHEILUS** Panzer, pp. 911-912

**attenuatum** Banks. Prey: *Lycosa antelucana* Mont.

**idoneum birkmanni** Banks. Prey: *Lycosa tigana* Gertsch and Wallace.

Biology: Evans, 1959. Kans. Ent. Soc. Jour. 32: 75.

**DIPOGON** subgenus **DEUTERAGENIA** Susterer, pp. 912-913

**calipterus calipterus** (Say). Prey: *Amaurobius* sp.

**calipterus nubifer** (Cresson).

Taxonomy: Wasbauer, 1960. Pan-Pacific Ent. 36: 174, figs. 4-6. ♂.

**\*fascipennis** (Haupt), n. comb. Ill. Probably a synonym of *sayi sayi* Banks.

*Deuteragenia fascipennis* Haupt, 1959. Nova Acta Leopoldina 21, no. 141: 32, fig. 16. ♀.

**papago anomalus** Dreisbach. Prey: *Sergiolus variegatus* (Hentz), *Haplo-drassus hiemalis* (Em.).

Taxonomy: Evans, 1959, *loc. cit. supra*, p. 436 (larva).

Biology: Evans and Yoshimoto, 1962, *loc. cit. supra*, pp. 104-105.

**sayi sayi** Banks. Nests in wood borings. Prey: adult and juvenile female spiders belonging to Amaurobiidae, Gnaphosidae, Salticidae and Thomisidae, mostly species of *Xysticus*.

Biology: Medler and Koerber, 1957. Ent. Soc. Amer. Ann. 50: 621-625, 6 figs.—Krombein, 1958. Ent. Soc. Wash. Proc. 60: 52.—Evans and Yoshimoto, 1962, *loc. cit. supra*, pp. 102-104.

Taxonomy: Evans, 1959, *loc. cit. supra*, p. 436, figs. 14-19, 45 (larva).

**DIPOGON** subgenus **DIPOGON** Fox, p. 913

**brevis brevis** (Cresson). Prey: *Phidippus purpuratus* Keys.

Biology: Evans and Yoshimoto, 1962, *loc. cit. supra*, p. 105.

**\*diablo** Wasbauer. Calif. (Contra Costa Co.).

*Dipogon (Dipogon) diablo* Wasbauer, 1960. Pan-Pacific Ent. 36: 172, figs. 1-3. ♀, ♂.

**\*leechi** Wasbauer. Calif. (Marin Co.); Mexico (Baja California).

*Dipogon (Dipogon) leechi* Wasbauer, 1960. Pan-Pacific Ent. 36: 171. ♀.

**\*DIPOGON** subgenus **WINNEMANELLA** Krombein

*Dipogon* subg. *Winnemanella* Krombein, 1962. Biol. Soc. Wash. Proc. 75: 7.

Type: *Dipogon (Winnemanella) fulleri* Krombein. By monotypy and orig. desig.

Place after subg. *Dipogon*, p. 913.

**\*fulleri** Krombein. Md., S. C. Prey: *Icius hartii* Em.

*Dipogon (Winnemanella) fulleri* Krombein, 1962. Biol. Soc. Wash. Proc. 75: 8. ♀.

**PRIOCNEMIS** subgenus **PRIOCNEMISSUS** Haupt, Sup. 1, p. 173

**minorata** Banks.

Taxonomy: Evans, 1959, *loc. cit. supra*, p. 434, figs. 8-13, 44 (larva).

Biology: Evans and Yoshimoto, 1962, *loc. cit. supra*, p. 99.—Kurczewski, 1963. Brooklyn Ent. Soc. Bul. 57: 86-87.

**oregona** Banks. Prey: *Actinoxia versicolor* Sim., *Atypoides riversi* P.-Camb.

**PRIOCNEMIS** subgenus **PRIOCNEMIS** Schiedte, Sup. 1, p. 173

(= *Prioncnemis* subg. *Myrmecosalius* Ashmead, p. 914)

**cornica** (Say). Prey: Many spp. of errant spiders. Delete ? before reference to *Agenia atrata* Provancher.

Taxonomy: Evans, 1959, *loc. cit. supra*, p. 434, fig. 38 (larva).—Townes, 1963. Ent. Soc. Wash. Proc. 65: 115.

Biology: Kurczewski, 1961. Brooklyn Ent. Soc. Bul. 56: 23.—Evans and Yoshimoto, 1962, *loc. cit. supra*, pp. 96-97.—Kurczewski, 1963. Brooklyn Ent. Soc. Bul. 57: 87-88.

**germana** (Cresson). Prey: *Amaurobius bennetti* (Blackwall), *A. sp.*

Biology: Evans and Yoshimoto, 1962, *loc. cit. supra*, p. 98.

**hestia** (Banks). Prey: *Agroeca* sp.

Biology: Evans and Yoshimoto, 1962, *loc. cit. supra*, p. 98.

**notha notha** (Cresson). Prey: *Trochosa pratensis* Em.

Biology: Evans and Yoshimoto, 1962, *loc. cit. supra*, pp. 97-98.

**scitula relicta** Banks. Prey: *Habrocestum pulex* (Hentz), *Agelenopsis* sp.

Biology: Krombein, 1961. Brooklyn Ent. Soc. Bul. 56: 62.—Evans and Yoshimoto, 1962, *loc. cit. supra*, pp. 98-99.

**scitula scitula** (Cresson).

*Minagenia perfecta* (Provancher) of Sup. 1, p. 177 (syn. by Townes, 1963, *loc. cit. supra*, p. 115).

**Genus CALICURGUS** Lepeletier, p. 915

**hyalinatus alienatus** (Smith). Prey: *Neoscona* spp., *Araneus marmoreus* Clerck, *A. sp.*, *Wixia ectypa* (Walck.).

Biology: Krombein, 1958. Biol. Soc. Wash. Proc. 71: 21.—Krombein, 1958. Ent. Soc. Wash. Proc. 60: 52-53.—Krombein, 1961. Brooklyn Ent. Soc. Bul. 56: 62.—Evans and Yoshimoto, 1962, *loc. cit. supra*, p. 101.

**hyalinatus rux** (Cresson). Md.

**Genus PHANAGENIA** Banks, p. 915

**bombycina** (Cresson). Prey: *Lycosa avida* Walck., *L. gulosa* Walck.

Biology: Savin, 1924. Nat. Hist. 24: 520-522.—Kurczewski, 1961. Brooklyn Ent. Soc. Bul. 56: 23.—Evans and Yoshimoto, 1962, *loc. cit. supra*, p. 108.

**Genus AUPLOPUS** Spinola, pp. 915-917

**architectus architectus** (Say). Prey: *Clubiona* sp., *Icius similis* Bks.

Biology: Krombein, 1961. Brooklyn Ent. Soc. Bul. 56: 62-63.—Evans and Yoshimoto, 1962, *loc. cit. supra*, pp. 108-109.

**caerulescens careulescens** (Dahlbom). Md. (Plummers Is.).

**caerulescens subcorticalis** (Walsh). Makes mud cells in borings in sumac stems. Prey: *Clubiona* sp. *Trachelas tranquillus* (Hentz), *Anyphaena pectorosa* Koch.

Biology: Evans and Yoshimoto, 1962, *loc. cit. supra*, pp. 109-110.—Medler, 1964. Ent. News 75: 189-191.

**inermis** Townes. Mexico (Morelos). Prey: *Lycosa* sp.

Biology: Evans, 1964. Kans. Ent. Soc. Jour. 37: 306.

**mellipes variitarsatus** (Dalla Torre). Makes mud cells in borings in sumac stems.

Biology: Evans and Yoshimoto, 1962, *loc. cit. supra*, p. 110.

**nigrellus** (Banks). Prey: *Phidippus* sp.

Biology: Evans and Yoshimoto, 1962, *loc. cit. supra*, p. 109.

**AGENIELLA** subgenus **LEUCOPHRUS** Townes, p. 917

**fulgifrons** (Cresson). Prey: *Phidippus audax* Hentz.

**semitincta** (Banks). N. Y. (Ithaca). Prey: *Agelenopsis potteri* Blackw.  
Biology: Kurczewski, 1961. Brooklyn Ent. Soc. Bul. 56: 24.

**AGENIELLA** subgenus **NEMAGENIA** Banks, p. 918

**longula** (Cresson). Prey: *Lycosa* sp.

Biology: Evans, 1959. Kans. Ent. Soc. Jour. 32: 75.

**AGENIELLA** subgenus **AGENIELLA** Banks, pp. 918-919

**conflicta** Banks. Prey: *Trochosa* sp., *Arctosa littoralis* Hentz.

Biology: Evans and Yoshimoto, 1962, *loc. cit. supra*, pp. 106-107.

**evansi** Townes. Prey: *Lycosa* sp., *Tarentula kochi* Keys.

Biology: Evans, 1959. Kans. Ent. Soc. Jour. 32: 76.

**obscura delicata** Banks. Change heading to **utilis delicata** Banks.

**obscura obscura** Banks. Syn. of **utilis utilis** (Cameron).

**partita** Banks. Prey: *Arctosa* sp.

Biology: Evans and Yoshimoto, 1962, *loc. cit. supra*, p. 107.

**utilis delicata** Banks. Formerly **obscura delicata** Banks.

\***utilis utilis** (Cameron). Mexico (Tabasco).

*Pseudagenia utilis* Cameron, 1891. Biol. Cent.-Amer. Hym., v. 2, p. 170. ♀.

*Ageniella (Ageniella) obscura obscura* Banks (syn. by Townes, 1963. Ent. Soc. Wash. Proc. 65: 115).

**AGENIELLA** subgenus **PRIOPHANES** Banks, p. 919

**arcuata** (Banks). Md., N. Mex. Prey: *Oxyopes salticus* Hentz, *Misumenops celer* Hentz.

Biology: Evans and Yoshimoto, 1962, *loc. cit. supra*, p. 107.—Evans, 1964. Kans. Ent. Soc. Jour. 37: 306.

\***carolae** Wasbauer. Calif. (Riverside Co.). On flowers of *Asclepias erosa*.

*Ageniella (Priophanes) carolae* Wasbauer, 1959. Kans. Ent. Soc. Jour. 32: 109, fig. 4. ♀.

**fuscipennis** Townes. Calif. (Alameda and Glenn Counties). Prey: *Xysticus* sp. On flowers of *Foeniculum vulgare*.

Taxonomy: Wasbauer, 1959, *loc. cit. supra*, p. 109, figs. 1-3. ♂.

**rufescens** (Banks). Ariz.. Wyo.

**Genus MINAGENIA** Banks, p. 919

**osoria** (Banks). Host: Lycosid spider.

Biology: Kaston, 1959. Brooklyn Ent. Soc. Bul. 54: 103-106, fig. 9.

**perfecta** (Provancher) of Sup. I, p. 177. Transfer to **Priocnemis** subg. **Priocnemis** Schiødte, p. 914, as a synonym of **scitula scitula** (Cresson).

**Genus CEROPALES** Latreille, pp. 920-921

**maculata fraterna** Smith.

Biology: Evans and Yoshimoto, 1962, *loc. cit. supra*, pp. 111-112.

**APORUS** subgenus **APORUS** Spinola, pp. 921-922

**bequaerti** (Banks).

Taxonomy: Evans, 1958. Ent. News 69: 149, figs. 3-6. ♂.

**Genus ALLAPORUS** Banks, p. 922

\***fascipennis** Evans. Tex. (Cameron Co.).

*Allaporus fascipennis* Evans, 1959. Kans. Ent. Soc. Jour. 32: 29. ♀, ♂.

Genus **PSORTHASPIIS** Banks, p. 923

**albocaudata** (Malloch). Syn. of **planata** (Fox).

**brimleyi** (Malloch). Ark.

**planata** (Fox).

**Psorthaspis albocaudata** (Malloch) (syn. by Evans, 1958, *loc. cit. supra*, p. 148).

Genus **TASTIOTENIA** Evans, p. 924

**festiva** Evans. N. Mex. Taken on flowers of *Euphorbia*, *Prosopis*, *Croton*, *Aplopappus*. Prey: ? *Latrodectus mactans* (F.).

Biology and Distribution: Evans, 1961. Southwest. Naturalist 6: 51-52.

\*Genus **EPIPOMPILUS** Kohl

(=Genus *Aulocostethus* Ashmead of Sup. 1, p. 179)

**Epipompilus** Kohl, 1884. K. K. Zool.-Bot. Ges. Wien Verh. 34: 57.

Type: **Epipompilus maximiliani** Kohl. Desig. by Ashmead, 1900.

\***Epicostethus** Banks, 1947. Mus. Comp. Zool. Bul. 99: 445.

Type: **Epicostethus williamsi** Banks. By monotypy and orig. desig.

Revision: Evans, 1961. Psyche 68: 25-37.

**pulcherrimus** Evans. Bahamas (Andros Is.).

Genus **EVAGETES** Lepeletier, pp. 924-925

**ingenuus** (Cresson).

**Pompilus florentinii** Dalla Torre (syn. by Evans, 1963. Ent. Soc. Wash. Proc. 65: 108). Transferred from *Pompilidae* of Uncertain Position, p. 937.

\***macswaini** Evans. Calif., Wyo.

**Evagetes macswaini** Evans, 1957. Pan-Pacific Ent. 33: 181, fig. 1. ♂, ♀.

**parvus** (Cresson). Costa Rica.

AGENIOIDEUS subgenus **RIDESTUS** Banks, p. 925

**biedermanni** (Banks). Prey: *Loxosceles devius* Gertsch and Mulaik.

Biology: Evans, 1959. Kans. Ent. Soc. Jour. 32: 76.

Genus **SERICOPOMPILUS** Howard, p. 926

**apicalis** (Say). Prey: *Phidippus audax* v. *bryantae* Kaston, *P. whitmanii* Peckh., *Acanthepeira stellata* (Walck.).

Biology: Krombein, 1958. Ent. Soc. Wash. Proc. 60: 101.—Krombein, 1959. Ent. Soc. Wash. Proc. 61: 193.—Evans and Yoshimoto, 1962, *loc. cit. supra*, pp. 89-91.

Genus **POECILOPOMPILUS** Howard, pp. 927-928

**interruptus interruptus** (Say). Prey: *Acanthepeira stellata* Walck.

Taxonomy: Evans, 1959, *loc. cit. supra*, p. 438, figs. 26-30 (larva).

Biology: Evans and Yoshimoto, 1962, *loc. cit. supra*, pp. 93-94.

Genus **EPISYRON** Schiodte, pp. 926-927

**biguttatus biguttatus** (Fabricius). Prey: *Araneus diadematus* Clerck.

Biology: Kurczewski, 1963. Brooklyn Ent. Soc. Bul. 57: 88.

**biguttatus californicus** (Banks). Prey: *Neoscona naiba* Chamb. & Gertsch.

**posterus** (Fox). Prey: *Gea heptagon* (Hentz), *Neosoconella pegnina* (Walck.), *Neoscona vertebrata* McCook.

Biology: Krombein, 1958. Ent. Soc. Wash. Proc. 60: 102.—Krombein, 1959. Ent. Soc. Wash. Proc. 61: 194.—Krombein, 1964. Amer. Mus. Novitates 2201: 10-11.

Taxonomy: Evans, 1959, *loc. cit. supra*, p. 439 (larva).



**quinquenotatus quinquenotatus** (Say). Prey: *Metazygia wittfeldae* (McCook), *Aranea cornuta* Clerck, *A. patagiata* Clerck, *A. sp.*, *Epeira displicata* Hentz, *Neoscona arabesca* (Walck.).

Biology: Krombein, 1958. Ent. Soc. Wash. Proc. 60: 102.—Kurczewski, 1961. Brooklyn Ent. Soc. Bul. 56: 24.—Krombein, 1961. Brooklyn Ent. Soc. Bul. 56: 63.—Evans and Yoshimoto, 1962, *loc. cit. supra*, pp. 91-92.—Evans, 1963. Ent. News 74: 238-239, fig. 2.—Krombein, 1964. Brooklyn Ent. Soc. Bul. 58: 118.

Taxonomy: Evans, 1959, *loc. cit. supra*, p. 439, fig. 46 (larva).

**Genus TACHYPOMPILUS Ashmead, p. 928**

**ferrugineus burrus** (Cresson).

Biology: Evans and Yoshimoto, 1962, *loc. cit. supra*, pp. 87-88.

**ferrugineus ferrugineus** (Say).

Biology: Evans and Yoshimoto, 1962, *loc. cit. supra*, p. 87.

**ANOPLIUS subgenus LOPHOPOMPILUS Radoszkowski, pp. 928-929**

**aethiops** (Cresson). Prey: *Lycosa frondicola* Em.

Biology: Evans and Yoshimoto, 1962, *loc. cit. supra*, p. 70.

**atrox** (Dahlbom). Prey: *Dolomedes urinator* Hentz.

Biology: Krombein, 1959, *loc. cit. supra*, p. 194.

**carolina** (Banks). Prey: *Wadotes hybridus* (Em.), *W. sp.*

Biology: Krombein, 1958. Ent. Soc. Wash. Proc. 60: 53.—Krombein, 1961. Brooklyn Ent. Soc. Bul. 56: 63.—Evans and Yoshimoto, 1962, *loc. cit. supra*, pp. 70-71.

Taxonomy: Evans, 1959, *loc. cit. supra*, p. 442, fig. 50 (larva).

**cleora** (Banks). Prey: *Arctosa littoralis* (Hentz).

Biology: Krombein 1958. Ent. Soc. Wash. Proc. 60: 102.—Evans and Yoshimoto, 1962, *loc. cit. supra*, pp. 69-70.

Taxonomy: Evans, 1959, *loc. cit. supra*, p. 443 (larva).

**ANOPLIUS subgenus NOTIOCHARES Banks, p. 929**

**amethystinus amethystinus** (Fabricius). Prey: *Lycosa sp.*

**amethystinus atramentarius** (Dahlbom).

Biology: Evans and Yoshimoto 1962, *loc. cit. supra*, pp. 71-72.

**ANOPLIUS subgenus ARACHNOPHROCTONUS Howard, pp. 930-931**

**americanus americanus** (Palisot de Beauvois). Change 1805 to 1811, and add Pl. 3, fig. 6 in orig. ref.

**americanus juxtus** (Cresson). Prey: *Lycosa sp.*

Biology: Evans and Yoshimoto, 1962, *loc. cit. supra*, pp. 76-77.

**americanus trifasciatus** (Beauvois). Md. (Plummers Is.). Change 1805 to 1811, and add Pl. 3, fig. 7 in orig. ref.

**apiculatus autumnalis** (Banks).

Taxonomy: Evans, 1959, *loc. cit. supra*, p. 442, fig. 49 (larva).

Biology: Evans and Yoshimoto, 1962, *loc. cit. supra*, pp. 74-75.

**apiculatus pretiosus** (Banks).

Taxonomy: Evans, 1959, *loc. cit. supra*, p. 442 (larva).

Biology: Krombein, 1959. Ent. Soc. Wash. Proc. 61: 194.—Evans and Yoshimoto, 1962, *loc. cit. supra*, pp. 74-75.—Krombein, 1964. Amer. Mus. Novitates 2201: 11.

**marginalis** (Banks). Prey: *Geolycosa* spp., *Lycosa* spp., *Arctosa littoralis* Hentz.

Biology: Krombein, 1958. Ent. Soc. Wash. Proc. 60: 102-103.—Evans and Yoshimoto, 1962, *loc. cit. supra*, pp. 73-74.—Kurczewski, 1963. Brooklyn Ent. Soc. Bul. 57: 88-89.—Krombein, 1964. Amer. Mus. Novitates 2201: 11-13.

Taxonomy: Evans, 1959, *loc. cit. supra*, p. 441, figs. 31-34, 48 (larva).

**relativus** (Fox).

Biology: Evans and Yoshimoto, 1962, *loc. cit. supra*, pp. 72-73.

**semirufus** (Cresson). Mexico (Morelos). Prey: *Lycosa* sp., *Pardosa milvina* Hentz, *P. falcifera* Camb.

Biology: Krombein, 1958. Ent. Soc. Wash. Proc. 60: 103.—Krombein, 1959. Ent. Soc. Wash. Proc. 61: 194.—Evans and Yoshimoto, 1962, *loc. cit. supra*, pp. 75-76.—Kurczewski, 1963. Brooklyn Ent. Soc. Bul. 57: 89.—Evans, 1964. Kans. Ent. Soc. Jour. 37: 306.

Taxonomy: Evans, 1959, *loc. cit. supra*, p. 442 (larva).

**\*variegatus** (Dreisbach), n. comb. N. Mex.

*Arachnoproctonus (!) variegatus* Dreisbach, 1957. Ent. News 68: 72, 2 figs. ♂.

**ANOPLIUS subgenus POMPILINUS** Ashmead, pp. 931-932**bequaerti** Evans. Prey: *Lycosa* sp.

Biology: Krombein, 1964. Amer. Mus. Novitates 2201: 13.

**\*clavipes** (Dreisbach), n. comb. Tex. (Conlon), Kans. (Medora).

*Pompilinus clavipes* Dreisbach, 1958. Ent. News 69: 61, figs. ♂.

**clystera** (Banks). Prey: *Lycosa* sp.**\*drakei** (Dreisbach), n. comb. N. Y. (Cranberry Lake).

*Pompilinus drakei* Dreisbach, 1958. Ent. News 69: 62, figs. ♂.

**estellina** (Banks). Prey: Small spiders, possibly Lycosidae.

Biology: Evans, 1964. Kans. Ent. Soc. Jour. 37: 305-306.

**fraternus** (Banks).

Taxonomy: Evans, 1959, *loc. cit. supra*, p. 440, figs. 35-37 (larva).

**krombeini** Evans.

Taxonomy: Evans, 1959, *loc. cit. supra*, pp. 440-441 (larva).

Biology: Evans and Yoshimoto, 1962, *loc. cit. supra*, p. 80.

**marginatus** (Say). Prey: *Tibellus duttoni* (Hentz).

Taxonomy: Evans, 1959, *loc. cit. supra*, p. 440, fig. 39 (larva).

Biology: Krombein, 1959, *loc. cit. supra*, p. 194.—Evans and Yoshimoto, 1962, *loc. cit. supra*, pp. 78-80.—Kurczewski, 1963, *loc. cit. supra*, p. 89.

**splendens** (Dreisbach). Prey: *Habronattus viridipes* (Hentz), *Castianeira* sp., *Lycosa* sp., *Agelenopsis* spp.

Biology: Krombein, 1959, *loc. cit. supra*, p. 194.

**subcylindricus** (Banks).

Taxonomy: Evans, 1959, *loc. cit. supra*, p. 440 (larva).

Biology: Evans and Yoshimoto, 1962, *loc. cit. supra*, pp. 77-78.

**tenebrosus** (Cresson). Prey: *Tarentula kochi* Keys.**ANOPLIUS subgenus ANOPLIUS** Dufour, pp. 932-933**depressipes** Banks.

Biology: Evans and Yoshimoto, 1962, *loc. cit. supra*, pp. 83-84.

**illinoensis** (Robertson). Prey: *Lycosa* sp.

Taxonomy: Evans, 1959, *loc. cit. supra*, p. 439, figs. 20-25, 47 (larva).

Biology: Evans and Yoshimoto, 1962, *loc. cit. supra*, pp. 82-83.

**imbellis** Banks. Nesting in soil near areas of still water. Prey: *Pardosa ramulosa* McCook.

Biology: Wasbauer, 1957. Wasmann Jour. Biol. 15: 81-97, 7 figs.

**ithaca** (Banks).

Taxonomy: Evans, 1959, *loc. cit. supra*, p. 440 (larva).

Biology: Evans and Yoshimoto, 1962, *loc. cit. supra*, p. 83.—Kurczewski, 1963, *loc. cit. supra*, p. 89-90.

**papago** Banks, changed status. Ariz. Prey: *Lycosa* sp.

*Anoplus (Anoplus) ventralis tarsatus* Banks. Remove **papago** Banks,

a valid sp., from syn. (*teste* Evans, 1964. Kans. Ent. Soc. Jour. 37: 304).

Biology: Evans, 1964, *loc. cit. supra*, pp. 304-305.

**ventralis tarsatus** Banks. Remove **papago** Banks from syn. Prey: *Alopecosa gertschi* Schenkel.

Biology: Powell, 1958. Pan-Pacific Ent. 34: 53-56.

**ventralis ventralis** (Banks). Prey: *Lycosa helluo* Walck.

**virginiensis** (Cresson). Prey: Agelenid spiders.

Taxonomy: Evans, 1959, *loc. cit. supra*, p. 440 (larva).

Biology: Evans and Yoshimoto, 1962, *loc. cit. supra*, pp. 81-82.

POMPILUS subgenus HESPEROPOMPILUS Evans, pp. 933-934

\***hilli** Evans. Calif. (Pomona Mts.).

**Pompilus (Hesperopompilus) hilli** Evans, 1957. Pan-Pacific Ent. 33: 183. ♂.

\*POMPILUS subgenus XENOPOMPILUS Evans

**Pompilus** subg. **Xenopompilus** Evans, 1953. Ent. Soc. Amer. Ann. 46: 531.

Type: **Pompilus (Xenopompilus) tlahuicanus** Evans. Orig. desig.

Place after subg. **Hesperopompilus**, p. 934.

\***tlahuicanus** Evans. Ariz. (Portal); Mexico (Morelos, Jalisco, Durango, Chihuahua).

**Pompilus (Xenopompilus) tlahuicanus** Evans, 1953. Ent. Soc. Amer. Ann. 46: 534, fig. 1. ♀, ♂.

\***Pompilus (Xenopompilus) tarahumarae** Evans, 1953. Ent. Soc. Amer. Ann. 46: 535. ♀. (Syn. by Evans, 1960. Ent. News 71: 166.)

POMPILUS subgenus PERISSOPOMPILUS Evans, Sup. 1, p. 184

**perfasciatus** Evans.

Taxonomy: Evans, 1958. Ent. News 69: 147, figs. 1-2. ♂.

POMPILUS subgenus AMMOSPEX Wilcke, p. 934

**angularis** (Banks). Prey: *Pellenes* sp., *Xysticus* sp., *Callilepis altitudonis* Chamb., *Habronattus* (?) sp.

Biology: Evans, 1959. Kans. Ent. Soc. Jour. 32: 76.—Evans, 1963. Ent. News 74: 239.

**anomalus anomalus** (Dreisbach). Prey: *Xysticus contractor* Thor.

**michiganensis** (Dreisbach). Prey: *Xysticus conctator* Thor., *X. transversatus* (Walck.).

Biology: Kurczewski and Snyder, 1964. Biol. Soc. Wash. Proc. 77: 215-222, 6 figs.

**occidentalis** (Dreisbach). Prey: *Pardosa* sp., *P. uintana* Gertsch.

Biology: Powell, 1957. Pan-Pacific Ent. 33: 39-40.—Evans, 1963. Ent. News 74: 239.

**solonus solonus** (Banks). Prey: *Lycosa* sp.

POMPILUS subgenus ARACHNOSPILA Kincaid, pp. 934-935

**fumipennis eureka** (Banks). Prey: *Tarentula kochi* Keys.

Genus APORINELLUS Banks, pp. 935-936

Taxonomy: Evans, 1957. Pan-Pacific Ent. 33: 185-186 (key).

**apicatus** (Banks). Prey: *Xysticus* sp.

Biology: Krombein, 1959. Ent. Soc. Wash. Proc. 61: 194.

\***borregoensis** Evans. Calif. (Borrego). On flowers of *Croton californicus*.

**Aporinellus borregoensis** Evans, 1957. Pan-Pacific Ent. 33: 184, fig. 2. ♂, ♀.

**bridwelli** Evans. Prey: *Oxyopes helius* Chamb.

Biology: Evans, 1959. Kans. Ent. Soc. Jour. 32: 76.

**completus** Banks. Prey: *Pellenes oregonensis* Peck., *Phidippus clarus* Keys.

Biology: Krombein, 1961. Brooklyn Ent. Soc. Bul. 56: 63.

**fasciatus** (Smith). Prey: *Tibellus duttoni* (Hentz).

Taxonomy: Krombein, 1959, *loc. cit. supra*, pp. 194-195.

**taeniatus taeniatus** (Kohl). Prey: *Pellenes* sp.

Biology: Krombein, 1964. Amer. Mus. Novitates 2201: 13.

#### Pompilidae of Uncertain Position, p. 937

**Pompilus ephippiger** Smith. Delete from North American fauna (*teste* Evans, 1963. Ent. Soc. Wash. Proc. 65: 108).

**Pompilus florentinii** Dalla Torre. Transfer to synonymy of **Evagetes ingenuus** (Cresson), p. 925.

**Pompilus obscurus** Dahlbom. Delete from North American fauna (*teste* Evans, 1963, *loc. cit. supra*, p. 108).

### Superfamily SPHECOIDEA

Based primarily on a study of larvae, H. E. Evans (Ent. News 75: 225-237, 1964) proposed recognizing only the single family Sphecidae in this superfamily. He suggested regrouping the sphecoid wasps into the following eight subfamilies:

Ampulicinae (= Ampulicidae of Catalog)

Sphecinae (= Sphecinae of Catalog)

Larrinae (= Larrinae, Trypoxyloninae and Crabroninae of Catalog)

Mellinae (= Mellinini of Catalog)

Pemphredoninae (= Pemphredoninae of Catalog)

Astatinae (= Astatinae of Catalog)

Philanthinae (= Philanthinae of Catalog)

Nyssoninae (= Nyssoninae of Catalog less Mellinini)

### Family AMPULICIDAE

#### AMPULEX subgenus RHINOPSIS Westwood, p. 938

**canaliculata** Say.

Taxonomy: Evans, 1959. Ent. News 70: 57-58, 6 figs. (larva).

#### \*DOLICHURUS subg. PARADOLICHURUS Williams

**Dolichurus** subg. **Paradolichurus** Williams, 1959. Wasmann Jour. Biol. 17: 299.

Type: **Dolichurus (Paradolichurus) californicus** Williams. By orig. desig. and monotypy.

Place after **Dolichurus** on p. 938.

\***californicus** Williams. Calif. (San Diego Co.).

**Dolichurus (Paradolichurus) californicus** Williams, 1959. Wasmann Jour. Biol. 17: 300, figs. 1, 2, 4. ♀.

### Family SPHECIDAE

Taxonomy: Evans, 1959a. Amer. Ent. Soc. Trans. 85: 168-189, text fig.

1 (keys to subfamilies and genera based on larval characters, and

remarks on evolution and classification based on larval characters).

—Evans, 1964. Amer. Ent. Soc. Trans. 90: 235-299, 114 figs.

(larvae, supplement).—Evans, 1964. Ent. News 75: 225-237, 3

figs. (classification and evolution).

Biology: Evans, 1963. Sci. Amer. 208, no. 4, pp. 145-154 (predatory wasps).

## Subfamily ASTATINAE

Taxonomy: Evans, 1958a. Amer. Ent. Soc. Trans. 84: 109-113, figs. 1-8, 46-48 (larvae).—Evans, 1959a, *loc. cit. supra*, pp. 165-166 (larvae).—Parker, 1962. Ent. Soc. Amer. Ann. 55: 643-644 (key to genera).

## Genus DIPLOPECTRON Fox, pp. 938-939

**diablensis** Williams. Calif. (San Diego Co.).

Taxonomy: Williams, 1959. Wasmann Jour. Biol. 17: 303, fig. 5. ♀.

## Genus ASTATA Latreille

(= *Astata* subgenus *Astata* Latreille, pp. 939-940)

Revision: Parker, 1962, *loc. cit. supra*, pp. 643-659, 42 figs.

Raised to generic rank by Parker, 1962.

\***bakeri** Parker. Ont. west to B. C., south through S. Dak. and Wash. to Tex. and Calif.; Mexico (Pacific coast). Prey: *Nysius raphanus* How., *Lygaeus bicrucis* Say (?).

*Astata bakeri* Parker, 1962. Ent. Soc. Amer. Ann. 55: 647, text fig. 1, figs. 11, 21. ♂, ♀.

Biology: Williams, 1946. Hawaiian Ent. Soc. Proc. 12: 647 (rec. as *Astata* sp.).

**bicolor** Say. Southern Canada and U. S. east of Rocky Mts.; Mexico. Prey: nymphs of Pentatomidae.

Taxonomy: Evans, 1959a, *loc. cit. supra*, pp. 165-166 (larva).—Parker, 1962, *loc. cit. supra*, p. 652, figs. 7, 13, 32.

Biology: Evans, 1962. N. Y. Ent. Soc. Jour. 70: 30-31.

**bigeloviae** Cockerell and Fox. Western Tex. to Calif.; Mexico (Jalisco).

Taxonomy: Parker, 1962, *loc. cit. supra*, p. 650, fig. 24.

\***boharti** Parker. N. Mex., Ariz.

*Astata boharti* Parker, 1962. Ent. Soc. Amer. Ann. 55: 650, fig. 25. ♂, ♀.

\***clypeata** Parker. East slope of Rocky Mts. in U. S.; Mexico (western mts.).

*Astata clypeata* Parker, 1962. Ent. Soc. Amer. Ann. 55: 651, figs. 15, 26. ♂, ♀.

\***femorata** Parker. Ariz. (Peña Blanca in Santa Cruz Co.).

*Astata femorata* Parker, 1963. Pan-Pacific Ent. 39: 185, figs. 1-3, ♂.

**leuthstromi** Ashmead. Alaska, Canada, northern U. S., south in mts. to Ariz.

Nests in soil beneath vegetation. Prey: Immature Pentatomidae.

Biology: Evans, 1958b. N. Y. Ent. Soc. Jour. 65: 176-177.—Evans, 1962, *loc. cit. supra*, pp. 31-32.

Taxonomy: Parker, 1962, *loc. cit. supra*, p. 648, fig. 22.

\***mexicana** Cresson. Canada, U. S. and Mexico, west of Rocky Mts.

*Astata mexicana* Cresson, 1881. Amer. Ent. Soc. Trans. 9: Proc. p. v. ♂.

Taxonomy: Parker, 1962, *loc. cit. supra*, p. 653, figs. 13, 28, 30, 34.

**nevadica** Cresson. Western North America, Canada to Mexico.

Taxonomy: Parker, 1962, *loc. cit. supra*, p. 654, figs. 9, 10, 12, 16, 27, 31, 33.

\***nubecula bechteli** Parker. Desert areas, Wash. and Colo., south to Calif. and Tex.; Mexico (Sonora).

*Astata nubecula bechteli* Parker, 1962. Ent. Soc. Amer. Ann. 55: 649. ♂, ♀.

**nubecula nubecula** Cresson, changed status. Northern U. S., south to Va. and Calif. (San Diego). Prey: Nymphs, *Thyanta* sp.

*Astata (Astata) nubecula* Cresson. Reduced to subsp. rank (*teste* Parker, 1962, *loc. cit. supra*, p. 649).

**occidentalis** Cresson. Southern Canada, U. S.; Mexico (Michoacan, Baja California). Nests in soil devoid of vegetation. Prey: Adult and nymphal Pentatomidae.

Taxonomy: Evans, 1958a, *loc. cit. supra*, pp. 110-111, figs. 1-8 (larva).—Parker, 1962, *loc. cit. supra*, p. 651, figs. 8, 23.

Biology: Evans, 1958b, *loc. cit. supra*, pp. 168-176, figs. 3-8.—Powell and Burdick, 1960. Pan-Pacific Ent. 36: 25-30.

**unicolor** Say. Southern Canada, U. S.; Mexico to El Salvador. Nests in soil beneath overhanging vegetation. Prey: Immature Pentatomidae.

*Astata (Astata) unicolor* var. *rufiventris* Cresson (syn. by Parker, 1962, *loc. cit. supra*, p. 652).

Taxonomy: Evans, 1958a, *loc. cit. supra*, pp. 111-112, figs. 46-48 (larva).

Biology: Evans, 1958b, *loc. cit. supra*, pp. 160-168, figs. 1 2.

**unicolor** var. *rufiventris* Cresson. Syn. of **unicolor** Say.

\***williamsi** Parker. Oreg., Idaho, Utah, Nev., Calif.

*Astata williamsi* Parker, 1962. Ent. Soc. Amer. Ann. 55: 653, figs. 14, 29, 35, 36. ♂, ♀.

#### Genus DRYUDELLA Spinola

(= *Astata* subgenus *Dryudella* Spinola, p. 940)

Raised to generic rank by Parker, 1962, *loc. cit. supra*, p. 643. Place parens around all author names, except that Cockerell in heading for **millsi** should be removed from parens.

**aspera** (Fox). Idaho.

**elegans** (Cresson). Idaho.

**immigrans** (Williams). Calif.

**millsi** Cockerell. Remove parens around Cockerell in sp. heading.

**montana** (Cresson). Idaho, Wyo. Prey: Small nymphs of *Zelus* or *Pselliopus* (Reduviidae), *Eurygaster* (Scutelleridae), and *Corimelaena montana* Van D. (Cydnidae).

Biology: Evans, 1963. Ent. News 74: 236.

#### Subfamily LARRINAE

Taxonomy: Evans, 1958a, *loc. cit. supra*, pp. 113-126, figs. 9-45, 58, 59 (larvae).—Evans, 1959a, *loc. cit. supra*, pp. 166-167, figs. 54-59 (larvae).

#### Genus LYRODA Say, p. 941

**subita** (Say). Idaho, Calif., B. C.

Taxonomy: Evans, 1964, *loc. cit. supra*, pp. 281-282, figs. 78-84 (larva).

#### Genus BOTHYNOSTETHUS Kohl, p. 941

**distinctus** Fox. Idaho.

#### Genus PISONOPSIS Fox, p. 941

Transferred to subfamily Trypoxyloninae, p. 954, by Evans on basis of larval characters.

#### Genus PLENOCULUS Fox, pp. 941-942

Revision: Williams, 1960. Calif. Acad. Sci. Proc. 31: 1-49, 90 figs.

**abdominalis** Ashmead. Syn. of **davisi davisi** Fox.

**apicalis** Williams. Syn. of **davisi davisi** Fox.

\***boharti** Williams. Southern Calif.

*Plenoculus boharti* Williams, 1960. Calif. Acad. Sci. Proc. 31: 28, figs. 40, 61, 83, 84. ♀, ♂.

\***boregensis boregensis** Williams. Calif. (Borego in San Diego Co.).

*Plenoculus boregensis boregensis* Williams, 1960. Calif. Acad. Sci. Proc. 31: 20, figs. 26-29. ♀, ♂.

- \***boregensis perniger** Williams. Calif. (Thousand Palms).  
*Plenoculus boregensis perniger* Williams, 1960. Calif. Acad. Sci. Proc. 31: 21. ♂.
- cockerellii** Fox. Southern Calif. to western Tex.; Mexico (Baja California, Guerrero). Prey: Pyralid larvae.  
 Taxonomy: Williams, 1960, *loc. cit. supra*, p. 15, figs. 4, 14, 15, 16, 42, 48, 50, 51, 70, 80. ♂.
- \***cuneatus** Williams. Southern Calif. and Nev.  
*Plenoculus cuneatus* Williams, 1960. Calif. Acad. Sci. Proc. 31: 12, figs. 10, 17, 18, 24, 25. ♀, ♂.
- davisi atlanticus** Viereck. Prey: Nymphal and adult mirids, *Phytocoris* sp. (Mirinae).
- davisi davisi** Fox. Western Pa. Prey: mature and nymphal mirids (Mirinae, Phylinae, Orthotylinae), immature aphids (?).  
*Plenoculus abdominalis* Ashmead (syn. by Williams, 1960, *loc. cit. supra*, p. 43).  
*Plenoculus apicalis* Williams (syn. by Williams, 1960, *loc. cit. supra*, p. 44).  
 Taxonomy: Evans, 1959a, *loc. cit. supra*, pp. 166-167, figs. 54-59 (larva).  
 Biology: Evans, 1961. Ent. News 72: 223-228.
- \***davisi gracilis** Williams. Calif. (Riverside Co.).  
*Plenoculus davisi gracilis* Williams, 1960. Calif. Acad. Sci. Proc. 31: 42, fig. 54. ♀.
- \***davisi mojaviensis** Williams. Southern Calif., Ariz., N. Mex.  
*Plenoculus davisi mojaviensis* Williams, 1960. Calif. Acad. Sci. Proc. 31: 39, figs. 86, 88. ♀, ♂.
- \***davisi transversus** Williams. Calif. (Tulare and Riverside Counties).  
*Plenoculus davisi transversus* Williams, 1960. Calif. Acad. Sci. Proc. 31: 40, figs. 8, 57, 59. ♀.
- \***deserti** Williams. Southern Calif.  
*Plenoculus deserti* Williams, 1960. Calif. Acad. Sci. Proc. 31: 26, figs. 85, 87. ♂, ♀.
- \***palmarum** Williams. Southern Calif.  
*Plenoculus palmarum* Williams, 1960. Calif. Acad. Sci. Proc. 31: 22, figs. 9, 36, 37, 71, 73, 78. ♂, ♀.
- propinquus** Fox. Nev., Oreg., Wash. Utah.
- \***sinuatus** Williams. Southern Calif.  
*Plenoculus sinuatus* Williams 1960. Calif. Acad. Sci. Proc. 31: 7, figs. 30, 32, 35. ♀, ♂.
- \***stygius** Williams. Southern Calif. and Ariz. Prey: small mirid bug.  
*Plenoculus stygius* Williams, 1960. Calif. Acad. Sci. Proc. 31: 31, figs. 5, 62, 90. ♀, ♂.
- \***timberlakei** Williams. Southern Calif. and Ariz.  
*Plenoculus timberlakei* Williams, 1960. Calif. Acad. Sci. Proc. 31: 11, figs. 2, 11, 19-22, 31, 38, 47, 49, 52, 77. ♀, ♂.

Genus **SOLIERELLA** Spinola, pp. 942-944

**blaisdelli** (Bridwell).

Taxonomy: Evans, 1958, *loc. cit. supra*, p. 123, fig. 42 (larva).—Evans, 1964, *loc. cit. supra*, p. 285 (larva).

\***boregensis** Williams. Calif. (San Diego Co.).

*Solierella boregensis* Williams, 1958. Pan-Pacific Ent. 34: 208, fig. 2. ♀, ♂.

?**flavomaculata** (Cameron). Transf. to *Alysson*, p. 981.

**fossor** (Rohwer). Ariz.

**inermis** (Cresson). N. C., Fla. Change Lygaeidae to Miridae in Catalog, p. 943.

*\*mandibularis* Williams. Replaced by *prosopidis* Williams.

*\*masoni* Williams. Calif. (Thousand Palms).

*Solierella masoni* Williams, 1959. Ent. Soc. Wash. Proc. 61: 74, 5 figs.  
♀, ♂.

*mirifica* Pate.

Taxonomy: Williams, 1962. Ent. Soc. Wash. Proc. 64: 185-186 (♀).

*plenoculoides plenoculoides* (Fox). Ariz. Change fall to gall in rearing data.

*\*prosopidis* Williams. Calif. (San Bernardino Co.). On flowers of *Prosopis*.

*\*Solierella mandibularis* Williams, 1958. Pan-Pacific Ent. 34: 212, figs.  
4, 4a. ♀. Preocc.

*Solierella prosopidis* Williams, 1959. Pan-Pacific Ent. 35: 116. N. name.

*\*semirugosa* Williams. Calif. (San Diego, Riverside and Yolo Counties). On  
flowers of *Euphorbia polycarpa*.

*Solierella semirugosa* Williams, 1958. Pan-Pacific Ent. 34: 210, figs.  
3-3d. ♀, ♂.

*vierecki* (Rohwer). Ariz.

#### Genus NITELOPTERUS Ashmead, p. 944

*californicus* (Ashmead). Ariz.

*\*evansi* Krombein. Wyo., Wash. Prey: *Dictyna* sp.

*Nitelopterus evansi* Krombein, 1963. Ent. News 74: 61. ♀.

Biology: Evans, 1963. Ent. News 74: 234-236, figs. 1-2.

Taxonomy: Evans, 1964, *loc. cit. supra*, p. 283, figs. 88-92 (larva).

*slossonae barberi* Krombein. Prey: small or immature Linyphiidae, Lycosidae  
and Salticidae.

Biology: Krombein and Kurczewski, 1963. Biol. Soc. Wash. Proc. 76:  
140-143.—Krombein, 1964. Amer. Mus. Novitates 2201: 14-15.

Taxonomy: Evans, 1964, *loc. cit. supra*, pp. 283-284 (larva).

*slossonae slossonae* Ashmead. Prey: small, mostly immature, Lycosidae,  
Dictynidae, Salticidae and Linyphiidae.

Biology: Krombein and Kurczewski, 1963, *loc. cit. supra*, pp. 140-143.—  
Krombein, 1964. Amer. Mus. Novitates 2201: 13-14.

#### Genus NITELA Latreille, pp. 944-945

*virginiensis* Rohwer. Mich.

Taxonomy: Krombein, 1958. Ent. Soc. Wash. Proc. 60: 60. ♂.

#### TACHYTES subgenus TACHYTES Panzer, pp. 945-946

Taxonomy: Bohart, 1962. Pan-Pacific Ent. 38: 117-129, 26 figs. (*pepticus*  
group).

*aurulentus* (Fabricius). Transf. to *Tachytes* subg. *Tachyplena*, p. 946, where  
it replaces *mandibularis* Patton. N. B., *aurulentus* Auctt. is re-  
placed by *austrinus* Banks.

*austrinus* Banks. Replaces *aurulentus* Auctt., *nec* Fabricius.

*basirufus* Rohwer. Colo., Utah, Nev., Ariz., Calif.; Mexico (Hidalgo).

*brevipilis* Banks. Syn. of *sayi* Banks.

*\*californicus* Bohart. Calif., Oreg., Idaho.

*Tachytes californicus* Bohart, 1962. Pan-Pacific Ent. 38: 125, figs. 15-  
17. ♂, ♀.

*elongatus elongatus* Cresson.

Taxonomy: Evans, 1958a, *loc. cit. supra*, pp. 116-117, figs. 9-17 (larva).

*exornatus* Fox. Prey: *Conalcea* (?) sp., nymph.

Biology: Krombein, 1960. Brooklyn Ent. Soc. Bul. 55: 75.

*fulviventris fulviventris* Cresson. N. Dak. south to Tex., west to Wyo., Utah,  
N. Mex.; Mexico (Oaxaca). Another subsp. occurs in Baja Cali-  
fornia.



*fulviventris inferioris* Banks. Syn. of *pepticus pepticus* (Say).

*hesperus* Banks. Syn. of *sayi* Banks.

\**nevadensis* Bohart. Nev., Calif., Oreg., Wash.

*Tachytes nevadensis* Bohart, 1962. Pan-Pacific Ent. 38: 124, figs. 21-23.  
♂, ♀.

*pennsylvanicus* Banks. N. Y. to Va. west to Idaho, Colo., N. Mex., Oreg., B. C.

*Tachytes pepticus* (Say), in part, of Catalog. (*T. pennsylvanicus* Banks a valid sp., *teste* Bohart, 1962, *loc. cit. supra*, p. 122).

\**pepticus chelatus* Bohart. Ariz., Utah.

*Tachytes pepticus chelatus* Bohart, 1962. Pan-Pacific Ent. 38: 120, figs. 5, 6, 7. ♂, ♀.

*pepticus pepticus* (Say), changed status. Ill. and Ind. only.

*Tachytes pepticus* (Say). Reduced to subsp. rank (*teste* Bohart, 1962, *loc. cit. supra*, p. 119). N. B. *T. pennsylvanicus* Banks is a valid sp. not a syn.

*Tachytes fulviventris inferioris* (Banks) (syn. by Bohart, 1962, *loc. cit. supra*, p. 119).

*pepticus sericatus* Cresson, changed status. N. C. to Fla., Ala., Tex., Kans., Nebr., Colo.

*Tachytes sericatus* Cresson. Reduced to subsp. rank (*teste* Bohart, 1962, *loc. cit. supra*, p. 120).

*sayi* Banks. Western U. S. and B. C. east to Iowa, Kans., Tex.; Mexico (Baja California).

*Tachytes hesperus* Banks (syn. by Bohart, 1962, *loc. cit. supra*, p. 129).

*Tachytes brevipilis* Banks (syn. by Bohart, 1962, *loc. cit. supra*, p. 129).

\**sculleni* Bohart. Western Tex. to southern Calif., Nev.

*Tachytes sculleni* Bohart, 1962. Pan-Pacific Ent. 38: 126, figs. 8-11. ♂, ♀.

*sericatus* Cresson. A subsp. of *pepticus* (Say).

*spatulatus* Fox. Colo., N. Mex., Ariz., Utah, Nev., Wyo., Calif.

*Tachytes utahensis* Banks (syn. by Bohart, 1962, *loc. cit. supra*, p. 128).

*utahensis* Banks. Syn. of *spatulatus* Fox.

#### TACHYTES subgenus TACHYPLENA Banks, pp. 946-947

*aurulentus* (Fabricius). Transf. from *Tachytes* subg. *Tachytes*, p. 945.

*Tachytes (Tachyplena) mandibularis* Patton (syn. by van der Vecht, 1961. Zool. Verhandl. Rijksmus. Natuurlijke Hist. Leiden, No. 48, pp. 11-12).

Taxonomy: Evans, 1958a, *loc. cit. supra*, p. 117, figs. 18-20 (larva).

*crassus* Patton. Md. (Plummers Is.). Prey: *Orchelimum* sp.

Biology: Krombein, 1961. Brooklyn Ent. Soc. Bul. 56: 64.

Taxonomy: Evans, 1964, *loc. cit. supra*, pp. 285-286, figs. 96-98 (larva).

*distinctus* Smith.

Taxonomy: Evans, 1964, *loc. cit. supra*, pp. 286-287 (larva).

*ermineus* Banks. Idaho.

*harpax* Patton. Pa.

*mandibularis* Patton. Syn. of *aurulentus* (Fabricius).

#### TACHYTES subgenus TACHYNANA Banks, pp. 947-948

*abdominalis* (Say). Idaho.

*pattoni* Banks. Idaho.

#### TACHYTES subgenus TACHYOIDES Banks, p. 948

*mergus* Fox. Ala. Nests in pure sand with high water table. Prey: Immature and adult *Tridactylus apicalis* Say, *T. minutus* Scud.

Biology: Krombein and Kurczewski, 1963. Biol. Soc. Wash. Proc. 76: 143-

150, figs. 1-3.

Taxonomy: Evans, 1964, *loc. cit. supra*, pp. 287-288, figs. 85-87 (larva).

Genus *LARROPSIS* Patton, pp. 948-949

Revision: Bohart and Bohart, 1952. Ent. Soc. Wash. Proc. 64: 21-37, 32 figs. (subg. *Ancistromma*).

**aurantia** (Fox). Alta. east to N. Dak., south to Ariz. and Kans. Prey: *Ceuthophilus fusiformis* Scudd. (*Ancistromma*)

**\*bradleyi** Bohart and Bohart. Oreg., Calif. (*Ancistromma*)

*Larropsis (Ancistromma) bradleyi* Bohart and Bohart, 1962. Ent. Soc. Wash. Proc. 64: 25, figs. 20, 21, 31. ♀, ♂.

**capax** (Fox). B. C., Alta., east to N. Dak., south to Calif., Kans. and N. Mex. Prey: *Ceuthophilus* sp., nymph. (*Ancistromma*)

**\*corrugata** Bohart and Bohart. B. C., Oreg., Calif. (*Ancistromma*)

*Larropsis (Ancistromma) corrugata* Bohart and Bohart, 1962. Ent. Soc. Wash. Proc. 64: 31, figs. 3, 18, 19, 27. ♀, ♂.

**distincta** (Smith). Transcont., B. C. to Maine, south to Calif., Kans., N. C. Nest in natural cavities in coarse soil. Prey: Adult *Nemobius fasciatus* (DeG.). (*Ancistromma*)

Taxonomy: Evans, 1958a, *loc. cit. supra*, pp. 119-120, figs. 29-38 (larva). Biology: Evans, 1958c. Ent. News 69: 197-200.

**\*granulosa** Bohart and Bohart. Calif., Nev., Idaho, Ariz., N. Mex. (*Ancistromma*)

*Larropsis (Ancistromma) granulosa* Bohart and Bohart, 1962. Ent. Soc. Wash. Proc. 64: 33, figs. 4, 6, 7, 28. ♀, ♂.

**\*hurdi** Bohart and Bohart. Calif. (*Ancistromma*)

*Larropsis (Ancistromma) hurdi* Bohart and Bohart, 1962. Ent. Soc. Wash. Proc. 64: 34, figs. 5, 8, 9, 30. ♀, ♂.

**\*platynota** Bohart and Bohart. Ariz (Tucson). (*Ancistromma*)

*Larropsis (Ancistromma) platynota* Bohart and Bohart, 1962. Ent. Soc. Wash. Proc. 64: 35, figs. 24, 32. ♀.

**portiana** Rohwer. Western Tex., N. Mex. (*Ancistromma*)

**rubens** Mickel. Syn. of *sericifrons* (H. S. Smith).

**sericifrons** (H. S. Smith). Nebr., Wyo., Tex., N. Mex., Ariz. (*Ancistromma*)  
*Larropsis rubens* Mickel (syn. by Bohart and Bohart, 1962, *loc. cit. supra*, p. 36).

**\*shappirioi** Bohart and Bohart. D. C., Va. (*Ancistromma*)

*Larropsis (Ancistromma) shappirioi* Bohart and Bohart, 1962. Ent. Soc. Wash. Proc. 64: 37, figs. 14, 15, 28. ♀, ♂.

**tenuicornis** (Smith). Idaho. (*Larropsis*)

TACHYSPHEX subgenus TACHYSPHEX Kohl, pp. 949-953

**amplus** Fox. Nev., Idaho.

**apicalis** Fox. Ga., N. C. Nests in nearly vertical sand banks, usually near water courses, and stores nymphs of many genera of Acrididae and adults of *Melanoplus*.

Taxonomy: Evans, 1964, *loc. cit. supra*, pp. 288-289, figs. 99-103 (larva). Biology: Krombein, 1964. Amer. Mus. Novitates 2201: 15.

**ashmeadii** Fox. Tex., N. Mex., Ariz., Idaho, Wyo. Prey: Juvenile Acrididae (*Metator* sp.).

**belfragei** (Cresson). Fla. Prey: Nymphs of Tettigoniidae (*Conocephalus* sp.).

**\*boharti** Krombein. N. C., Fla. Nests in loose sand near water courses. Prey: Nymphs of Acrididae (*Psinidia fenestralis* (Serv.), *Scirtetica marmorata picta* Scud., *Chortophaga* sp.).

*Tachysphex boharti* Krombein, 1963. Ent. News 74: 177. ♀, ♂.  
Biology: Krombein, 1963, *loc. cit. supra*, pp. 179-180.

\**cockerellae* Rohwer. Calif.; Guatemala.

*Tachysphex cockerellae* Rohwer, 1914. U. S. Natl. Mus. Proc. 47: 518. ♂.

*coquilletti* Rohwer. Colo., Tex. Prey: Nymphs of Mantidae (*Litaneutria* sp.).

*eldoradensis* Rohwer. Idaho.

*exsectus* Fox. Colo., Tex.

*fusus* Fox. Introd. in Hawaii. Prey: Nymphs of Acrididae (*Chortophaga*, *Oxya* (?)).

Biology: Rau and Rau, 1918. Wasp Studies Afield, pp. 149-150.

\**hurdi* Bohart. Oreg., Calif.; Mexico (Baja California).

*Tachysphex hurdi* Bohart, 1962. Biol. Soc. Wash. Proc. 75: 33, figs. 13-15. ♂, ♀.

*laevifrons* (Smith). Nests in flat or slightly sloping sand. Prey: Immature *Melanoplus* (Acrididae).

\**linsleyi* Bohart. Calif., Nev., Wyo., Ariz., N. Mex., Tex. Nests in sandy soil. Prey: Immature Acrididae.

*Tachysphex linsleyi* Bohart, 1962. Biol. Soc. Wash. Proc. 75: 35, figs. 7-9. ♂, ♀.

*montanus* (Cresson). Idaho. Prey: Nymphal Acrididae (*Oedaleonotus*).

*mundus* Fox. N. J.

*nigrior* Fox. Oreg.

*parvulus* (Cresson). N. Mex.

*pechumani* Krombein. Nests in sandy or gravelly soil. Prey: Nymphal and adult Acrididae.

\**powelli* Bohart. Calif.

*Tachysphex powelli* Bohart, 1962. Biol. Soc. Wash. Proc. 75: 35, figs. 1-3. ♂, ♀.

*propinquus* Viereck. Prey: Adult Acrididae (*Phlibostroma* sp.).

*quebecensis* (Provancher). Wis., Minn., N. Dak., Calif. Prey: Immature Acrididae (*Camnula*, *Melanoplus*).

Biology: Peckham and Peckham, 1905. Wasps, Social and Solitary, pp. 263-264.

\**schlingeri* Bohart. Calif., Nev., Idaho, Wyo.

*Tachysphex schlingeri* Bohart, 1962. Biol. Soc. Wash. Proc. 75: 36, figs. 4-6. ♂, ♀.

*semirufus* (Cresson). Prey: Nymphal Acrididae (*Melanoplus*).

*sepulcralis* Williams. Ga., W. Va., Pa., N. Y., N. H. Nests in sandy soil covered with vegetation. Prey: Nymphal Acrididae (*Melanoplus*).

*similis* Rohwer. Nests in open sand. Prey: Immature Acrididae of many genera.

Biology: Krombein, 1964. Amer. Mus. Novitates 2201: 15-17, fig. 1.

*tarsatus* (Say). Delete immature Mantidae as prey. Nests in a variety of sandy soils. Prey: Immature Acrididae of many genera, and adult *Melanoplus*.

Biology: Peckham and Peckham, 1905. Wasps, Social and Solitary, pp. 261-263.

*tenuipunctus* Fox. Nests in sandy rangeland. Prey: Immature Acrididae (*Aulocara*, *Melanoplus*, *Oedaleonotus*).

Biology: Newton, 1956. Jour. Econ. Ent. 49: 615-619.

*terminatus* (Smith). Que., N. S., P. E. I. Nests in open sand. Prey: Nymphal Acrididae of many genera.

Taxonomy: Evans, 1958a, loc. cit. supra, p. 118, figs. 21-28 (larva).

Biology: Rau and Rau, 1918. Wasp Studies Afield, pp. 144-149.—Rau, 1927. Acad. Sci. St. Louis Trans. 25: 188-190.

**texanus** (Cresson). Kans., Colo., N. Mex., Ariz. Prey: Nymphal Acrididae (*Arphia* sp.).

Biology: Williams, 1913. Kans. Univ. Sci. Bul. 8: 206.

**wheeleri** Rohwer. Ala.

**\*williamsi** Bohart. Calif. (San Francisco Co.).

*Tachysphex williamsi* Bohart, 1962. Biol. Soc. Wash. Proc. 75: 38, figs. 10-12. ♂, ♀.

Genus PROSOPIGASTRA Costa, Sup. 1, p. 188

**\*nearctica** Bohart. Calif.

*Prospigastrea nearctica* Bohart, 1958. Ent. Soc. Wash. Proc. 60: 122, 6 figs. ♂, ♀.

MOTES subgenus MOTES Kohl, pp. 953-954

**argentata** (Beauvois). Prey: *Orocharis saltator* Uhl., nymph.

Biology: Krombein, 1958. Ent. Soc. Wash. Proc. 60: 103.

Taxonomy: Evans, 1957a. Amer. Ent. Soc. Trans. 83: 89-99, figs. 36-68 (larvae).—Evans, 1959a. Amer. Ent. Soc. Trans. 85: 157-161 (larvae).

### Subfamily TRYPOXYLONINAE

**\*PISON** subgenus KROMBEINIELLUM Richards

(=Pison subgenus *Paraceramius* Radoszkowski, Sup. 1, p. 188)

**Pison** subg. *Krombeiniellum* Richards, 1962. A Revisional Study of the Masarid Wasps, p. 118. N. name.

Insert Preocc. after citation for *Paraceramius*.

**koreense** (Radoszkowski). Md. (Plummers Is.), Mich.

Taxonomy: Krombein, 1958. Ent. News 69: 166-167.

Genus PISONOPSIS Fox

Taxonomy: Evans, 1959a, *loc. cit. supra*, p. 157, figs. 64-70 (larva).

Transfer this genus with component species from subfamily Larrinae, p. 941, to subfamily Trypoxyloninae, p. 954, and place before genus *Trypoxylon* Latr.

**birkmanni** Rohwer.

Taxonomy: Evans, 1959a, *loc. cit. supra*, pp. 157-158, figs. 64-70 (larva).

Genus TRYPOXYLON Latreille

(=Trypoxylon subgenus *Trypoxylon* Latreille of Catalog, pp. 955-956)

**adelphiae** Sandhouse. Syn. of *johnsoni* Fox.

**aldrichi** Sandhouse. Wyo.

Taxonomy: Evans, 1957a, *loc. cit. supra*, p. 95, figs. 56-58 (larva).

**backi** Sandhouse.

Biology: Krombein, 1958. Biol. Soc. Wash. Proc. 71: 21-22.

**\*clarkei** Krombein. N. Y., N. J., Pa., Md., D. C., Va., N. C. Nests in wooden borings.

*Trypoxylon (Trypoxylon) clarkei* Krombein, 1962. Biol. Soc. Wash. Proc. 75: 9. ♂, ♀.

**figulum** (Linnaeus).

Taxonomy: Soika, 1934. Soc. Ent. France Ann. 103: 342-343, pl. 3, fig. 2 (larva).

**frigidum** Smith.

Taxonomy: Evans, 1957a, *loc. cit. supra*, p. 96, figs. 59-60 (larva).

Biology: Thomas, 1962. Amer. Midland Nat. 67: 365.

**johnsoni** Fox.

*Trypoxylon (Trypoxylon) adelphiae* Sandhouse (syn. by Krombein, 1962, *loc. cit. supra*, p. 11).

Taxonomy: Evans, 1957a, *loc. cit. supra*, p. 97, fig. 61 (larva; recorded as *adelphiae*).

**pennsylvanicum** Saussure. Prey: Immature orb-weaver spider.

**richardsi** Sandhouse. Nests in twig borings, rose stems, and empty galls.

Prey: Small immature spiders.

Biology: Krombein, 1959. Biol. Soc. Wash. Proc. 72: 101-102.

**Genus TRYPARGILUM Richards, new status**

(= *Trypoxylon* subgenus *Trypargilum* Richards of Catalog, pp. 956-957)

This group merits generic rank on the basis of morphological and ethological characters of both adults and larvae.

**arizonense** (Fox), n. comb.

Taxonomy: Evans, 1957a, *loc. cit. supra*, p. 92, figs. 47-48 (larva).

**californicum** (Saussure), n. comb.

**clavatum** (Say), n. comb.

Taxonomy: Evans, 1957a, *loc. cit. supra*, p. 91, figs. 36-43 (larva).—  
Evans, 1959a, *loc. cit. supra*, p. 160 (larva).

**collinum collinum** (Smith), changed status and n. comb. Nests in twigs.

*Trypoxylon (Trypargilum) collinum* Smith. Reduced to subsp. rank (*teste* Krombein, 1959. Ent. Soc. Wash. Proc. 61: 153).

Taxonomy: Evans, 1959a, *loc. cit. supra*, p. 160 (larva).

Biology: Krombein, 1964. Amer. Mus. Novitates 2201: 18.

**collinum rubrocinctum** (Packard), changed status and n. comb.

*Trypoxylon (Trypargilum) rubro-cinctum* Packard. Reduced to subsp. rank (*teste* Krombein, 1959. Ent. Soc. Wash. Proc. 61: 153).

Taxonomy: Evans, 1957a, *loc. cit. supra*, p. 94, fig. 63 (larva).—Evans, 1959a, *loc. cit. supra*, p. 161 (larva).

**johannis** (Richards), n. comb.

Taxonomy: Evans, 1957a, *loc. cit. supra*, p. 92, figs. 44-46 (larva).—  
Evans, 1959a, *loc. cit. supra*, p. 160 (larva).—Krombein, 1959. Ent. Soc. Wash. Proc. 61: 153.

**politum** (Say), n. comb.

Taxonomy: Evans, 1957a, *loc. cit. supra*, p. 95, fig. 62 (larva).—Evans, 1959a, *loc. cit. supra*, p. 161 (larva).

**rubrocinctum** (Packard). A subsp. of **collinum** (Smith).

**spinosum** (Cameron), n. comb.

Taxonomy: Evans, 1957a, *loc. cit. supra*, p. 93, fig. 49 (larva).

**striatum** (Provancher), n. comb.

Taxonomy: Evans, 1957a, *loc. cit. supra*, p. 94, fig. 55 (larva).—Evans, 1959a, *loc. cit. supra*, p. 161 (larva).

Biology: Balduf, 1961. Brooklyn Ent. Soc. Bul. 56: 82-83.

**texense** (Saussure), n. comb. Fla. Prey: Adult and immature Oxyopidae, Araneidae, Tetragnathidae, Thomisidae, and Salticidae.

Taxonomy: Evans, 1959a, *loc. cit. supra*, p. 159 (larva).

Biology: Kurczewski, 1963. Fla. Ent. 46: 243-245.

\***tridentatum archboldi** (Krombein), n. comb. Fla. (Lake Placid).

*Trypoxylon (Trypargilum) tridentatum archboldi* Krombein, 1959. Ent. Soc. Wash. Proc. 61: 150. ♀, ♂.

Biology: Krombein, 1959, *loc. cit. supra*, pp. 151-152.

**tridentatum tridentatum** (Packard), changed status and n. comb.

*Trypoxylon (Trypargilum) tridentatum* Packard. Reduced to subsp. rank (*teste* Krombein, 1959, *loc. cit. supra*, p. 150).

Taxonomy: Evans, 1957a, *loc. cit. supra*, p. 93, figs. 50-52 (larva).—  
Evans, 1959a, *loc. cit. supra*, p. 161 (larva).

## Tribe PSENINI

Taxonomy: Evans, 1959a, *loc. cit. supra*, pp. 139-145, figs. 1-22 (larvae).

## DIODONTUS subgenus DIODONTUS Curtis, p. 958

**atratus parenosas** Pate. Calif. (Beverly Hills).

Biology: Krombein, 1958. Biol. Soc. Wash. Proc. 71: 22.

Taxonomy: Evans, 1959a, *loc. cit. supra*, pp. 144-145, figs. 13-19 (larva).

## PSEN subgenus PSEN Latreille, p. 959

**barthi** Viereck.

Taxonomy: Evans, 1959a, *loc. cit. supra*, pp. 142-143, fig. 20 (larva).

**erythropoda** Rohwer. Ind.

## PSEN subgenus PSENEO Malloch, p. 959

**kohlii kohlii** Fox. Replaced by **longiventris kohlii** Fox.

**kohlii spicatus** Malloch. Syn. of **longiventris longiventris** (Cameron).

**longiventris kohlii** Fox. Replaces **kohlii kohlii** Fox. Ind.

\***longiventris longiventris** (Cameron), n. status and n. comb. Mexico (Veracruz).

**Mimesa longiventris** Cameron, 1891. Biol. Cent.-Amer., Hym., v. 2, p. 137, pl. 8, fig. 18. "♀" = ♂.

**Psen (Pseno) kohlii spicatus** Malloch, n. syn. (*teste* K. V. Krombein, who examined the type of **longiventris** Cameron).

**simplicicornis** Fox.

Taxonomy: Evans, 1959a, *loc. cit. supra*, p. 142 (larva).

## \*Genus AMMOPSEN Krombein

**Ammopsen** Krombein, 1959. Brooklyn Ent. Soc. Bul. 54: 18.

Type: **Ammopsen masoni** Krombein. By monotypy and orig. desig.

Place before **Mimesa** Shuckard, p. 959.

\***masoni** Krombein. Southern Calif., Ariz., N. Mex.

**Ammopsen masoni** Krombein, 1959. Brooklyn Ent. Soc. Bul. 54: 19. ♂, ♀.

## MIMESA subgenus MIMESA Shuckard, pp. 960-961

**basirufa** Packard. Prey: Nymph of *Idiocerus* sp., adult *Macropsis viridis* (Fitch).

Biology: Krombein, 1961. Brooklyn Ent. Soc. Bul. 56: 64.

**ezra** (Pate). Pa., Md.

**polita** (Malloch). Maine, Md.

**psychrus** (Pate). Transf. to subg. **Mimumesa**, p. 961.

## MIMESA subgenus MIMUMESA Malloch, p. 961

**nigra** (Packard). Nests in decaying wood. Prey: *Agallia* sp.

Taxonomy: Evans, 1959a, *loc. cit. supra*, pp. 143-144, figs. 21-22 (larva).

Biology: Gurney, 1951. Ent. Soc. Wash. Proc. 53: 280.

**psychrus** (Pate). Transf. from subg. **Mimesa** (*teste* K. V. Krombein, who examined the type of **borealis** Smith).

## Genus PLUTO Pate, p. 962

? **albifacies** (Malloch). Tex.

Taxonomy: Evans, 1959a, *loc. cit. supra*, pp. 140-141, figs. 1-6 (larva).

**sayi** (Rohwer). Calif.

**tibialis** (Cresson). Ala., S. C.

## Tribe PEMPHREDONINI

Taxonomy: Evans, 1958a, *loc. cit. supra*, pp. 126-136, figs. 49-57, 60-69 (larvae).—Evans, 1959a, *loc. cit. supra*, pp. 167-168 (larvae).

## Genus XYLOCELIA Rohwer, pp. 962-964

**atra** Mickel. Pa.

**franclemonti** Krombein. Pa., Md.

Taxonomy: Evans, 1958a, *loc. cit. supra*, p. 133, figs. 65, 66 (larva).

**metathoracica** Mickel. Ala.

**occidentalis** (Fox). Nests in large colonies in ground. Prey: *Aphis* sp., *Myzus persicae* Sulz. (?), *Macrosiphum* (*Acyrtosiphon*) sp., *Rhopalosiphum* sp.

Biology: Powell, 1964. Wasmann Jour. Biol. 21: 155-176.

**virginiana** Rohwer. Md. Prey: Nymphs of *Prociphilus tessellatus* (Fitch). Nests in ground.

Biology: Krombein, 1958. Biol. Soc. Wash. Proc. 71: 22-24.—Krombein, 1963. Ent. Soc. Wash. Proc. 65: 264.

Taxonomy: Evans, 1958a, *loc. cit. supra*, p. 133, fig. 67 (larva).

## Genus PULVERRO Pate, pp. 964-965

**mescalero** Pate. Tex.

## PEMPHREDON subgenus PEMPHREDON Latreille, pp. 965-966

**concolor** Say.

Taxonomy: Evans, 1958a, *loc. cit. supra*, pp. 130-131, fig. 56 (larva).

## PEMPHREDON subgenus CEMONUS Panzer, p. 966

**giffardi** (Rohwer). Nev.

Taxonomy: Evans, 1958a, *loc. cit. supra*, p. 129, fig. 57 (larva).

**harbecki** Rohwer. Md., Va. Nests in boring in sumac pith. Prey: *Rhopalosiphum rhois* Mon.

Biology: Krombein, 1960. Ent. News 71: 34.

\***lethifer** form **littoralis** Wagner. Ont. south to Fla., Pa. west to Ill., Colo., Utah, Wash., Calif. Introduced from Europe. Nests in soft pith of roses, berries, sumac, hibiscus. Prey: Nymphs of *Aphis* sp., nymphs and adults of *Chaitophorus populicola patchae* H. R. L.

**Pemphredon** (**Diphlebus**) **littoralis** Wagner, 1918. Deutsch. Ent. Ztschr., p. 143. ♀, ♂.

Taxonomy: Krombein, 1959. Brooklyn Ent. Soc. Bul. 54: 95-96 (as *lethifer lethifer* (Shuckard)).—Evans, 1964, *loc. cit. supra*, pp. 246-248, figs. 23-25 (larva).

Biology: Krombein, 1960. Ent. News 71: 34-35.—Krombein, 1964. Biol. Soc. Wash. Proc. 77: 99-100, fig. 17.—Thomas, 1964. Mich. Acad. Sci., Arts and Letters, Papers 49: 199-201.

**tenax** Fox.

Taxonomy: Evans, 1958a, *loc. cit. supra*, pp. 128-129, figs. 49-55 (larva).

## STIGMUS subgenus STIGMUS Panzer, pp. 966-967

**americanus** Packard. Md. Prey: *Therioaphis* sp.

Biology: Krombein, 1958. Biol. Soc. Wash. Proc. 71: 24.—Krombein, 1961. Brooklyn Ent. Soc. Bul. 56: 64-65.

**fraternus** Say. Prey: Nymphs of *Therioaphis* sp. and *Monellia* sp.

**inordinatus** **inordinatus** Fox. Nests in pith of mulberry twigs and peony stems. Prey: *Aphis frangulae* Kalt. (?).

Taxonomy: Evans, 1958a, *loc. cit. supra*, pp. 134-135, figs. 68, 69 (larva). Biology: Wasbauer and Simonds, 1964. Pan-Pacific Ent. 40: 114-116, 1 fig.

## Nomen Nudum in Stigma Panzer

\**Stigma coloradensis* Ashmead, 1889. In Cockerell. Colo. Biol. Assn., 10th Rept., [p. 2] (probably published originally in Custer County Courant newspaper).

## Genus PASSALOEUCUS Shuckard, pp. 967-968

**annulatus** (Say). Nest in boring in sumac pith. Prey: *Macrosiphum* sp., nymphs; adult *Neothomasia populicola* (Thos.).

Biology: Krombein, 1958. Biol. Soc. Wash. Proc. 71: 24.—Krombein, 1960. Ent. News 71: 35-36.

**cuspidatus** Smith. The oldest available name for the species called *mandibularis* (Cresson) in Catalog (*teste* K. V. Krombein, who has examined the types).

Biology: Krombein, 1958. Biol. Soc. Wash. Proc. 71: 24-25.

Taxonomy: Evans, 1958a, *loc. cit. supra*, pp. 131-132, figs. 60-64 (larva). —Evans, 1959a, *loc. cit. supra*, p. 167 (larva). —Evans, 1964, *loc. cit. supra*, pp. 250-251 (larva).

**gertrudis** Krombein. Pa.

**ithacae** Krombein. Mich.

Taxonomy: Evans, 1964, *loc. cit. supra*, pp. 249-250, fig. 22 (larva).

**mandibularis** (Cresson). Syn. of **cuspidatus** Smith; delete ? before ref. to **cuspidatus**.

**relativus** Fox. Prey: Nymphs of *Aphis* sp.

Biology: Krombein, 1958. Biol. Soc. Wash. Proc. 71: 25.

\***turionum** Dahlbom. Md., Va., N. C., Ohio, Ind., Mich.; introduced from Europe. Nests in twigs.

*Passaloecus turionum* Dahlbom, 1845. Hym. Eur. 1: 246. ♀, ♂.

\**Passaloecus brevicornis* Morawitz, 1864. Acad. Sci. St. Petersburg Bul. 7: 462. ♀, ♂.

Taxonomy: Krombein, 1961. Ent. News 72: 258-259.

## Genus SPILOMENA Shuckard, pp. 968-969

**alboclypeata** Bradley. B. C., Oreg., Calif., Idaho, Mont., Utah, Ariz., N. Mex., Colo., Kans., W. Va., Va. Prey: immature Thysanoptera.

Taxonomy and Biology: Krombein, 1958. Ent. Soc. Wash. Proc. 60: 60, figs. 4, 4a, 6.

**ampliceps** Krombein.

Taxonomy: Krombein, 1958. Ent. Soc. Wash. Proc. 60: 60, figs. 3, 3a.

\***barberi** Krombein. Mass., N. Y. and Ont. south to Ga. and Tenn., Iowa, Kans., Colo., N. Mex., Ariz., Utah, Calif. Nests in abandoned anobiid borings in wood. Provisions with immature thrips.

*Spilomena barberi* Krombein, 1962. Biol. Soc. Wash. Proc. 75: 12. ♂, ♀.

**pusilla** (Say). Md. Prey: immature *Sericothrips*.

Biology and Taxonomy: Krombein, 1958. Ent. Soc. Wash. Proc. 60: 53, 61, figs. 2, 2a, 5.

## Genus XYSMA Pate, p. 969

**ceanothae** (Viereck). Md., Ga. Nests in deserted anobiid beetle burrows in wood. Prey: larvae of Thripinae.

Biology and Taxonomy: Krombein, 1958. Biol. Soc. Wash. Proc. 71: 25.

## Subfamily SPECINAE

Taxonomy: Evans, 1959a, *loc. cit. supra*, pp. 147-149, figs. 31-35 (larvae).

—Bohart and Menke, 1963. Univ. Calif. Pubs. Ent. 30: 91-182, 115 figs. (reclassification).



## Tribe AMMOBIINI

(= Tribes *Sphecini* of Catalog and *Chlorionini* of Sup. 1)

Revision: Bohart and Menke, 1963, *loc. cit. supra*, pp. 117-160.

The tribal heading must be changed because Bohart and Menke transferred *Chlorion* Latreille to Tribe Sceliphronini.

Genus AMMOBIA Billberg, Sup. 1, p. 190

(= *Sphex* subg. *Sphex* Linnaeus, pp. 971-972, of Catalog)

Raised to generic rank by Evans and Lin, 1956. Amer. Ent. Soc. Trans. 81: 139.

*ashmeadi* (Fernald). Idaho, Utah, Nev., Calif.

\**dorsalis* (Lepeletier). Southern U. S., Fla. and Ga. to Calif.; Central and South America.

*Sphex dorsalis* Lepeletier, 1845. Hist. Nat. Ins., Hym., v. 3, p. 347. ♂.

*Sphex (Sphex) singularis* Smith (syn. by Bohart and Menke, 1963, *loc. cit. supra*, p. 127).

*flavitarsis* (Fernald), changed status. Va. to Fla., west to Tex.; Mexico (Durango).

*Sphex (Sphex) opacus flavitarsis* (Fernald). Raised to specific rank (*teste* Bohart and Menke, 1963, *loc. cit. supra*, p. 121).

*habena* (Say). Md. to Fla., west to Ark. and Tex.; Mexico.

*ichneumonea* (Linnaeus), changed status. Southern Canada, U. S., south to Brazil and Peru. Delete *jamaicensis* (Drury), a valid sp., and its synonym *ornata* (Lepeletier), from synonymy.

*ichneumoneus aurifluus* Perty. Syn. of *jamaicensis* (Drury).

*ichneumoneus fulviventris* Guérin. Syn. of *jamaicensis* (Drury).

*jamaicensis* (Drury). Fla.; West Indies, ? S. America.

*Sphex (Sphex) ichneumoneus ichneumoneus* (Linnaeus) of Catalog, in part. Remove *jamaicensis* and its syn., *ornata* Lepeletier, from syn. of *ichneumoneus* (*teste* Bohart and Menke, 1963, *loc. cit. supra*, p. 125).

*Sphex (Sphex) ichneumoneus aurifluus* Perty (syn. by Bohart and Menke, 1963, *loc. cit. supra*, p. 125).

*Sphex (Sphex) ichneumoneus fulviventris* Guérin (syn. by Bohart and Menke, 1963, *loc. cit. supra*, p. 125).

*lucae* Saussure. Transfer to *Fernaldina* Bohart and Menke.

*opacus flavitarsis* (Fernald). Raised to specific rank.

*singularis* (Smith). Syn. of *dorsalis* (Lepeletier).

*tepaneca* (Saussure). Tex. (Alpine); Mexico. Prey: Tettigoniidae.

Biology: Gillaspay, 1962. Brooklyn Ent. Soc. Bul. 57: 15-17.

Taxonomy: Evans, 1964, *loc. cit. supra*, pp. 237-238, figs. 1-4 (larva).

*texana* (Cresson). Kans., Okla., Ariz.

\*Genus FERNALDINA Bohart and Menke

*Fernaldina* Bohart and Menke, 1963. Univ. Calif. Pubs. Ent. 30: 130.

Type: *Sphex lucae* Saussure. By monotypy and orig. desig.

Place before *Isodontia*, p. 972.

*lucae* (Saussure). Southeastern and western U. S., B. C.; northern Mexico.

Transferred from *Sphex* subg. *Sphex*, p. 972.

Biology: Linsley, 1962. Ent. Soc. Amer. Ann. 55: 156-157, fig. 4.

Genus ISODONTIA Patton

(= *Chlorion* subgenus *Isodontia* Patton, pp. 972-973)

\**Isodontia* subg. *Murrayella* Bohart and Menke, 1963. Univ. Calif. Pubs. Ent. 30: 137.

Type: *Sphex elegans* Smith. Orig. desig.

Raised to generic rank by Evans and Lin, 1956, *loc. cit. supra*, p. 143.

**apicalis** (Smith). N. J. to Fla., west to Tex., Tenn., Nebr., Ariz. (*Isodontia*)

*Sphex (Isodontia) aztecus cinereus* (Fernald). Replaced by **apicalis** (Smith), an older name, which is not a homonym (*teste* Bohart and Menke, 1963, *loc. cit. supra*, p. 134).

*Sphex (Isodontia) harrisi* (Fernald) of Catalog, in part. Transfer citation for *harrisi* alone to syn. of **apicalis** (*teste* Bohart and Menke, 1963, *loc. cit. supra*, p. 134).

**auripes** Fernald. (*Murrayella*)

Taxonomy: Evans, 1959a, *loc. cit. supra*, pp. 147-148 (larva).

**aztecus** *aztecus* (Saussure). Delete *aztecus* (Saussure) and *robustus* (Cameron) from Catalog, and transfer *macrocephalus* (Fox) to synonymy of *philadelphica* (Lepeletier).

**elegans** (Smith). B. C., U. S. west of 100th Meridian. (*Murrayella*)

Taxonomy: Evans, 1964, *loc. cit. supra*, pp. 238-239, figs. 13, 16 (larva).

**exornata** Fernald. N. C. to Fla., west to Tex. (*Isodontia*)

**harrisi** Fernald. Remove *philadelphica* Lepeletier, a valid species, from synonymy: remove *apicalis* (Harris) and *mexicana* (Saussure) as another valid species; transfer *harrisi* to synonymy of *apicalis* (Smith).

**mexicana** (Saussure). U. S. east of Rockies, Ariz.; Mexico, Central America. Prey: *Oecanthus argentinus* Sauss., *Gryllus assimilis* F. (*Murrayella*)

*Sphex (Isodontia) harrisi* (Fernald) of Catalog, in part. References to *apicalis* (Harris), *apicalis* (Saussure) and *apicalis* var. *mexicana* (Saussure) belong under *mexicana* (*teste* Bohart and Menke, 1963, *loc. cit. supra*, p. 139).

Biology: Lin, C. S., 1962. Tex. Jour. Sci. 14: 429-430.

Taxonomy: Evans, 1964, *loc. cit. supra*, pp. 239-240 (larva).

**philadelphica** (Lepeletier). Eastern states, N. Y. to Kans., south to Fla. and Tex., Ariz., Calif. (*Isodontia*)

*Sphex (Isodontia) aztecus aztecus* Saussure, of Catalog, in part. *S. macrocephalus* a syn. of *philadelphica* (*teste* Bohart and Menke, 1963, *loc. cit. supra*, p. 135).

*Sphex (Isodontia) harrisi* (Fernald) of Catalog, in part. *S. philadelphica* removed from syn. and raised to sp. rank (*teste* Bohart and Menke, 1963, *loc. cit. supra*, p. 135).

Taxonomy: Evans, 1964, *loc. cit. supra*, p. 240 (larva).

#### Genus \*PRIONYX van der Linden

(= *Sphex* subg. *Priononyx* Dahlbom, p. 973)

*Prionyx* van der Linden, 1827. Nouv. Mem. Acad. Roy. Sci. Bruxelles 4: 362.

Type: *Ammophila kirbii* van der Linden. By monotypy.

Taxonomy: Parker, 1960. Pan-Pacific Ent. 36: 205-208, 1 pl. (key to N. A. spp.).

**atratus** (Lepeletier).

Biology: Evans, 1958d. Ent. Soc. Amer. Ann. 51: 178-181, fig. 1.

Taxonomy: Evans, 1959a, *loc. cit. supra*, p. 147 (larva).

**canadensis** (Provancher), changed status. Wash. to north. Calif., east to Idaho, Utah, Nev.

*Sphex (Priononyx) pubidorsus* (Costa), in part. *C. canadensis* is a valid sp. (*teste* Parker, 1960, *loc. cit. supra*, p. 205); *excisus* (Kohl) should also be removed from syn. of *pubidorsus* and placed as a syn. of *canadensis* (*teste* Bohart and Menke, 1963, *loc. cit. supra*, p. 157).

\**fervens* (Linnaeus). Tex.; West Indies.

*Sphex fervens* Linnaeus, 1758. Syst. Nat., ed. 10, p. 569. ♀. (Type from West Indies, not Indies.)

*Sphex (Priononyx) striatus* (Smith). Syn. by Schulz, 1912. Ent. Ztschr. Berlin 57: 56.

Taxonomy: van der Vecht, 1959. Ent. Ber. 19: 130.

Biology: Evans, 1958d, *loc. cit. supra*, p. 184, figs. 2-3.

\**foxi* Bohart and Menke. Tex., Nev., Utah; northern Mexico.

*Sphex (Priononyx) ferruginea* Fox, preocc. Substitute name proposed by Bohart and Menke, 1963 (Univ. Calif. Pubs. Ent. 30: 152).

\**parkeri* Bohart and Menke. U. S. south to Isthmus of Tehuantepec.

*Prionyx parkeri* Bohart and Menke, 1963. Univ. Calif. Pubs. Ent. 30: 154, figs. 35, 54, 96, 102. ♂, ♀.

Biology: Evans, 1958d, *loc. cit. supra*, pp. 183-184.—Linsley, 1962. Ent. Soc. Amer. Ann. 55: 156, fig. 4.—Krombein, 1964. Amer. Mus. Novitates 2201: 18-19.

*pubidorsus* (Costa). Remove *canadensis* (Provancher), a valid sp., and its syn., *excisus* (Kohl), from syn. of *pubidorsus*; place *pubidorsus* in syn. of *thomae* (Fabricius).

*striatus* (Smith). A syn. of *fervens* (Linnaeus).

\**subatratus* Bohart, n. comb. Oreg. and Idaho south and east to Calif., Utah. Ariz., N. Mex., western Tex.; Mexico (Chihuahua).

*Priononyx subatrata* Bohart, 1958. Brooklyn Ent. Soc. Bul. 53: 90. ♂, ♀.

*thomae* (Fabricius). Southeastern and western states, south to Argentina.

*Sphex (Priononyx) pubidorsus* (Costa) in part. Remove *canadensis* (Provancher), and its syn. *excisus* (Kohl), as a valid sp.; place *pubidorsus* (Costa) in syn. of *thomae* (*teste* Bohart and Menke, 1963, *loc. cit. supra*, p. 159).

Biology: Evans, 1958d, *loc. cit. supra*, pp. 181-183.

#### Genus PALMODES Kohl

(= *Sphex* subg. *Palmodes* Kohl, p. 944, of Catalog)

Revision: Bohart and Menke, 1961. Ent. Soc. Wash. Proc. 63: 179-191, 17 figs.

Raised to generic rank by Evans and Lin. 1956, *loc. cit. supra*, p. 141.

\**californicus* Bohart and Menke. Calif., Nev., Oreg., B. C. Prey: adult *Platylyra californica* Scud., immature *Neduba morsei* Caud.

*Palmodes californicus* Bohart and Menke, 1961. Ent. Soc. Wash. Proc. 63: 182, figs. 3, 13. ♂, ♀.

\**carbo* Bohart and Menke. B. C. to Calif., east to N. W. T., Mont., Colo. and N. Mex.

*Sphex (Palmodes) laeiventris* Cresson, in part. Remove *morio* Kohl, a valid sp., from synonymy (*teste* Bohart and Menke, 1961. Ent. Soc. Wash. Proc. 63: 188, fig. 17). However, *morio* is preoccupied, so *carbo* proposed as a replacement name by Bohart and Menke, 1963, *loc. cit. supra*, p. 144.

*daggyi* Murray. Syn. of *dimidiatus* (DeGeer).

\**dimidiatus* (DeGeer). U. S. except northwest; Mexico (Chihuahua, Coahuila).

*Sphex dimidiatus* DeGeer, 1773. Mém. pour servir à l'Hist. des Ins. 3: 577, pl. 30, fig. 5. ♂.

*Sphex (Palmodes) daggyi* Murray (syn. by Bohart and Menke, 1961, *loc. cit. supra*, p. 190).

*Sphex (Palmodes) rufiventris opuntiae* (syn. by Bohart and Menke, 1961, *loc. cit. supra*, p. 190).

*Sphex (Palmodes) rufiventris rufiventris* Cresson (syn. by Bohart and Menke, 1961, *loc. cit. supra*, p. 190).

- \***hesperus** Bohart and Menke. Calif. to B. C., Nev., Utah, Wyo., Colo. Prey: immature *Anabrus simplex* Hald.  
***Palmodes hesperus*** Bohart and Menke, 1961. Ent. Soc. Wash. Proc. 63: 184, figs. 6. ♂, ♀.
- \***insularis** Bohart and Menke. Calif. (San Clemente Is.).  
***Palmodes insularis*** Bohart and Menke, 1961. Ent. Soc. Wash. Proc. 63: 186. ♂, ♀.
- laeviventris** (Cresson). Remove ***morio*** (Kohl), a valid sp., from synonymy, and place it under \***carbo** Bohart and Menke. Calif., Wash., Nev., Mont., Utah, Idaho, Wyo., Colo.
- \***lissus** Bohart and Menke. Southern Calif., Ariz., Tex.  
***Palmodes lissus*** Bohart and Menke, 1961. Ent. Soc. Wash. Proc. 63: 187, figs. 5, 12. ♂, ♀.
- \***pacificus** Bohart and Menke. Calif.  
***Palmodes pacificus*** Bohart and Menke, 1961. Ent. Soc. Wash. Proc. 63: 188, figs. 8, 9, 14. ♂, ♀.
- praestans** (Kohl). Calif., Nev., Ariz., N. Mex.; Mexico (Coahuila).
- rufiventris opuntiae** (Rohwer). Syn. of **dimidiatus** (DeGeer).
- rufiventris rufiventris** (Cresson). Syn. of **dimidiatus** (DeGeer).
- \***stycticus** Bohart and Menke. Calif., Nev., Utah, Ariz., N. Mex.  
***Palmodes stycticus*** Bohart and Menke, 1961. Ent. Soc. Wash. Proc. 63: 191, figs. 1, 11, 16. ♂, ♀.

SPHEX subgenus **CHLORION** Latreille, p. 974

Transfer to Tribe Sceliphronini and place after **Podium** Fabricius, p. 980.

Genus **SPHEX** Linnaeus

(= *Ammophila* Kirby, of Catalog, pp. 974-977)

- \***Ammophila** subg. **Eremnophila** Menke, 1964. Canad. Ent. 96: 875.  
 Type: *Ammophila opulenta* Guérin. Orig. desig.  
 Biology: Evans, 1959b. Amer. Midland Nat. 62: 449-473;—Powell, 1964. Kans. Ent. Soc. Jour. 37: 240-258.
- aberti** (Haldeman). Transfer **montezuma** Cameron to syn. of **junceus** (Cresson). Prey: Larvae of *Euchlaena* sp. in Geometridae, and of Hesperidae sp.  
 Taxonomy: Evans, 1959a, loc. cit. supra, p. 148, figs. 31-33 (larva).  
 Biology: Evans, 1959b, loc. cit. supra, pp. 454-456.—Powell, 1964, loc. cit. supra, pp. 244-251.
- \***aphrodite** (Menke), n. comb. Ariz., Nev., Calif.  
***Ammophila aphrodite*** Menke, 1964. Acta Hym. 2: 8, fig. 2. ♂, ♀.
- arvensis** (Dahlbom). Delete from Catalog, an extralimital species (*teste* Menke, 1964. Acta Hym. 2: 21); **evansi** (Menke) replaces **arvensis** of American authors.
- aureonotatus** (Cameron). Prey: *Heterocampa guttivitta* (Wlkr.), larva. (***Eremnophila***)  
 Biology: Krombein, 1958. Ent. Soc. Wash. Proc. 60: 104.—Evans, 1959b, loc. cit. supra, pp. 464-465.
- \***bellulus** (Menke), n. comb. Ariz.  
***Ammophila bellula*** Menke, 1964. Acta Hym. 2: 17, fig. 10. ♂, ♀.
- \***boharti** (Menke), n. comb. Calif., Nev.  
***Ammophila boharti*** Menke, 1964. Acta Hym. 2: 9, fig. 7. ♂, ♀.
- \***californicus** (Menke), n. comb. Calif.  
***Ammophila californica*** Menke, 1964. Acta Hym. 2: 18, fig. 16. ♂, ♀.
- chiriquensis** (Cameron). Syn. of **volcanicus** (Cameron).

\**cleopatra* (Menke), n. comb. Western United States.

*Ammophila cleopatra* Menke, 1964. Acta Hym. 2: 19, fig. 12. ♂, ♀.

*denningi* (Murray). Syn. of *strenuus* (Cresson).

\**evansi* (Menke), n. comb. Eastern United States. Replaces *arvensis* of American authors, not Dahlbom.

*Ammophila evansi* Menke, 1964. Acta Hym. 2: 20, fig. 17. ♂, ♀.

*extremitatus* (Cresson). Western United States.

*Ammophila placida* Smith, of Catalog in part. Remove *extremitatus* from syn. (*teste* Menke, *in litt.*).

*femurrubrus* (Fox). Southwestern States.

*Ammophila volcanica* Cameron, of Catalog in part; *femurrubra* Fox is a valid sp., not a syn. (*teste* Menke, *in litt.*).

*fernaldi* (Murray). Ariz.

Taxonomy: Evans, 1964, *loc. cit. supra*, pp. 241-242, figs. 6, 7 (larva).

*ferruginosus* (Cresson). Insert H. S. before Smith in original citation for *Sphex cressoni*.

\**formicoides* (Menke), n. comb. Ariz., N. Mex., Tex.; Mexico (Sonora, Durango).

*Ammophila formicoides* Menke, 1964. Acta Hym. 2: 10, fig. 3. ♂, ♀.

*harti* Fernald. Prey: Spp. of Geometridae and Noctuidae.

Biology: Evans, 1959b, *loc. cit. supra*, pp. 459-461.

\**hurdi* (Menke). n. comb. Calif.

*Ammophila hurdi* Menke, 1964. Acta Hym. 2: 12, fig. 1. ♂, ♀.

*junceus* (Cresson). Prey: Spp. of Noctuidae and Notodontidae, including *Macrurocampa marthesia* (Cram.).

*Ammophila montezuma* Cameron, n. syn. (*teste* Menke, *in litt.*; transf. from syn. of *aberti* and placed in syn. of *junceus*).

Biology: Evans, 1959b, *loc. cit. supra*, pp. 461-462.

\**karenae* (Menke), n. comb. Calif., Ariz., N. Mex., Nev., Idaho; Mexico (Baja California).

*Ammophila karenae* Menke, 1964. Acta Hym. 2: 21, fig. 9. ♂, ♀.

*macra* (Cresson). Western United States.

*Ammophila procera* Dahlbom, of Catalog in part. Remove *macra* from syn. (*teste* Menke, *in litt.*).

\**marshi* (Menke), n. comb. Calif., Nev.

*Ammophila marshi* Menke, 1964. Acta Hym. 2: 13, fig. 5. ♂, ♀.

\**mcclayi* (Menke), n. comb. Calif.; Mexico (Baja California).

*Ammophila mcclayi* Menke, 1964. Acta Hym. 2: 24, fig. 13. ♂, ♀.

\**murrayi* (Menke), n. comb. Calif.

*Ammophila murrayi* Menke, 1964. Acta Hym. 2: 14, fig. 4. ♂, ♀.

*nasalis* (Provancher). Prey: Geometrid caterpillars.

Biology: Hicks, 1935. Pan-Pacific Ent. 11: 97-99.

*nearcticus* (Kohl). Idaho.

\**nefertiti* (Menke), n. comb. Wash., Oreg., Calif., Ariz., Nev., Idaho.

*Ammophila nefertiti* Menke, 1964. Acta Hym. 2: 16, figs. 8, 11. ♂, ♀.

*nigricans* (Dahlbom). Prey: Larvae of *Euparthenos nubilis* (Hbn.) and *Zale* sp.

Biology: Evans, 1959b, *loc. cit. supra*, p. 465.

\**parkeri* (Menke), n. comb. Calif., Nev. Prey: Geometrid caterpillars.

*Ammophila parkeri* Menke, 1964. Acta Hym. 2: 23, fig. 14. ♂, ♀.

Biology: Powell, 1964, *loc. cit. supra*, pp. 243-244.

*peckhami* Fernald.

\**Sphex willistoni* Fernald, 1934. No. Amer. and W. Indies *Sphex*, p. 91, fig. 37. ♀. N. syn. (*teste* Menke, *in litt.*).

**pictipennis** (Walsh). Eastern United States.

*Ammophila placida* Smith, of Catalog in part. Remove **pictipennis** from syn. (*teste* Menke, *in litt.*).

**pilosus pilosus** Fernald. Prey: Larvae of Lycaenidae, Geometridae, Noctuidae.

Biology: Hicks, 1935. Pan-Pacific Ent. 11: 99-101.—Evans, 1963. Ent. News 74: 238, fig. 5—Powell, 1964, *loc. cit. supra*, p. 244.

**placidus** (Smith). Remove **extrematus** (Cresson) and **pictipennis** (Walsh), both valid spp., from synonymy. Western United States. Prey: Larvae of sp. of Hesperidae.

Taxonomy: Evans, 1959a, *loc. cit. supra*, p. 148, fig. 34 (larva).

Biology: Evans, 1959b, *loc. cit. supra*, pp. 456-459.

**procerus** (Dahlbom). Remove **macra** (Cresson), a valid sp., from syn. Prey: larvae of *Schizura ipomeae* (Dblly.), *Heterocampa manteo* (Dblly.), *Nadata gibbosa* Sm., *Symmerista* sp., and *Smerinthus cerisyi* Kby.

*Ammophila saeva* Smith, n. syn. (*teste* Menke, *in litt.*).

Biology: Tilden, 1953. Pan-Pacific Ent. 29: 211-218.—Krombein, 1958.

Ent. Soc. Wash. Proc. 60: 104-105.—Evans, 1959b, *loc. cit. supra*, pp. 451-454.—Linsley, 1962. Ent. Soc. Amer. Ann. 55: 156, fig. 4.

**pruinosis** (Cresson). Prey: Larvae of Geometridae, Noctuidae, Pyralidae.

Taxonomy: Evans, 1959a, *loc. cit. supra*, p. 149, fig. 35 (larva).

Biology: Linsley, 1962, *loc. cit. supra*, p. 156.—Powell, 1964, *loc. cit. supra*, pp. 251-253, 256.

**\*regina** (Menke), n. comb. Calif., Oreg.

*Ammophila regina* Menke, 1964. Acta Hym. 2: 25, fig. 15. ♂, ♀.

**saevus** (Smith). Syn. of **procerus** (Dahlbom).

**\*stangei** (Menke), n. comb. Calif., Nev.

*Ammophila stangei* Menke, 1964. Acta Hym. 2: 15, fig. 6. ♂, ♀.

**strenuus** (Cresson).

*Ammophila denningi* Murray, n. syn. (*teste* Menke, *in litt.*).

**trichiosomus** (Cameron). Syn. of **xanthopterus** (Cameron).

**urnarius urnarius** (Dahlbom). Prey: Spp. of Noctuidae and Geometridae.

Biology: Evans, 1959b, *loc. cit. supra*, pp. 462-464.

**volcanicus** (Cameron). Remove **femurrubrus** (Fox), a valid sp., from synonymy.

*Ammophila chiriquensis* Cameron, n. syn. (*teste* Menke, *in litt.*).

Biology: Linsley, 1962, *loc. cit. supra*, p. 156, fig. 3.

**wrightii** (Cresson). Prey: Geometrid larvae.

Biology: Hicks, 1934. Psyche 41: 150-157, 2 figs.

**xanthopterus** (Cameron).

*Ammophila trichiosoma* Cameron, n. syn. (*teste* Menke, *in litt.*).

Genus **PODALONIA** Spinola, pp. 977-978

**caerulea** Murray. Idaho.

**robusta** (Cresson). Prey: Noctuid larva.

Biology: Evans, 1963. Ent. News 74: 237, fig. 4.

Taxonomy: Evans, 1964, *loc. cit. supra*, pp. 240-241, figs. 5, 8 (larvae).

### Tribe SCELIPHRONINI

Revision: Bohart and Menke, 1963. Univ. Calif. Pubs. Ent. 30: 99-117.

Genus **SCELIPHRON** Klug, pp. 978-979

**lucae** (Saussure). Delete from Catalog; occurs only in southern Baja California.

Genus **CHALYBION** Dahlbom, p. 979

\***zimmermanni aztecum** (Saussure), changed status. Western Tex. to Ariz.; Mexico.

**Pelopeus** (!) **aztecus** Saussure, 1867. Reise der Ost. Freg. Novara, Zool. 2: 26. ♂. Reduced to subsp. rank (*teste* Bohart and Menke, 1963, *loc. cit. supra*, p. 112).

**zimmermanni zimmermanni** Dahlbom, changed status. Tenn., Fla. to eastern Tex.

**Chalybion zimmermanni** Dahlbom. Reduced to subsp. rank (*teste* Bohart and Menke, 1963, *loc. cit. supra*, p. 112).

Tribe **Podiini**

Delete this heading. *Podium* Fabricius belongs to Tribe Sceliphronini (*teste* Bohart and Menke, 1963, *loc. cit. supra*, p. 105).

Genus **PODIUM** Fabricius, pp. 979-980

**carolina** Rohwer. Syn. of **rufipes** Fabricius.

\***krombeini** Bohart and Menke. Tex., southern Calif.; Mexico (Morelos, Puebla, Oaxaca).

**Podium krombeini** Bohart and Menke, 1963. Univ. Calif. Pubs. Ent. 30: 106, figs. 4, 49, 60. ♂, ♀.

**luctuosum** Smith. Nests in borings in dead wood and seals entrance with mud. Biology: Krombein, 1964. Brooklyn Ent. Soc. Bul. 58: 118-119.

Taxonomy: Evans, 1964, *loc. cit. supra*, pp. 244-245, figs. 14, 15 (larva).

**rufipes** Fabricius. N. Y. to Fla., Iowa, Kans., Tex.; Mexico, Central and South America.

\***Podium denticulatum** Smith, 1856. Brit. Mus. Cat. Hym. 4: 236. ♂, ♀. (Syn. by Bohart and Menke, 1963, *loc. cit. supra*, p. 108.)

**Podium carolina** Rohwer (syn. by Bohart and Menke, 1963, *loc. cit. supra*, p. 108).

Genus **CHLORION** Latreille

(= *Sphex* subg. *Chlorion* Latreille, p. 974 of Catalog)

Revision: Menke, 1961. Ent. Soc. Amer. Ann. 54: 667-669, 9 figs.

Raised to generic rank by Menke and transferred to tribe Sceliphronini by Bohart and Menke, 1963, *loc. cit. supra*, p. 101.

**aerarium** Patton. Remove **cyaneum** Dahlbom, a valid species, from synonymy, as well as its synonym, **occultus** (Kohl).

Biology: Krombein, 1958. Ent. Soc. Wash. Proc. 60: 104.—Krombein, 1959. Ent. Soc. Wash. Proc. 61: 195.

Taxonomy: Evans, 1964, *loc. cit. supra*, pp. 242-244, figs. 9-12 (larva).

**cyaneum** Dahlbom, changed status. Tex., N. Mex., Ariz.; Mexico.

**Sphex (Chlorion) aerarius** (Patton) of Catalog, in part. **Chlorion cyaneum** is a valid sp., and **occultus** Kohl is a syn. of it (*teste* Menke, 1961, *loc. cit. supra*, p. 669).

Subfamily **MELLININAE**

Taxonomy: Evans, 1959a, *loc. cit. supra*, pp. 145-147, figs. 23-30 (larva).

Tribe Mellinini of Catalog raised to subfamily rank by Evans on basis of larval characters.

Genus **MELLINUS** Fabricius, p. 980

**bimaculatus** Packard. Pa., N. Y.

## Subfamily NYSSONINAE

Taxonomy: Evans, 1959a, *loc. cit. supra*, pp. 149-156, figs. 36-42, 60, 62, 63, 71-73 (larvae).

This heading should be transferred to follow genus **Mellinus** Fabr.

## Genus ALYSSON Panzer, p. 981

**conicus** Provancher. Md.

**flavomaculatus** Cameron. Transf. from **Solierella**, p. 942 (*teste* H. E. Evans, who has examined the type).

**melleus** Say.

Taxonomy: Evans, 1959a, *loc. cit. supra*, p. 150, fig. 60 (larva).

**triangulifer triangulifer** Provancher. Md.

## NYSSON subgenus NYSSON Latreille, pp. 982-983

**cressoni** Cameron. Transf. to **Bembecinus**, p. 994, as an unrecognized sp.

**daecke**i Viereck. Pa.

Taxonomy: Evans, 1959a, *loc. cit. supra*, p. 150 (larva).

**lateralis** Packard. Md

**rusticus** Cresson. Host: ? *Psammaecius adornatus* (Brad.).

Biology: Powell and Chemsak, 1959. Pan-Pacific Ent. 35: 200.

**simplicicornis** Fox. Pa., W. Va.

## NYSSON subgenus EPINYSSON Pate, pp. 983-984

**melanopus** Pate. Pa.

**moestus** Cresson. Host: ? *Psammaecius adornatus* (Brad.).

Biology: Powell and Chemsak, 1959, *loc. cit. supra*, p. 200.

**opulentus** Gerstaecker.

Taxonomy: Evans, 1959a, *loc. cit. supra*, pp. 150-151, figs. 36-38 (larva).

**pumilus** Cresson. Host: ? *Psammaecius adornatus* (Brad.).

Biology: Powell and Chemsak, 1959, *loc. cit. supra*, p. 200.

**seminole** Bradley. S. C.

**trichrus** (Mickel). Ala.

## Genus HYPONYSSON Cresson, pp. 984-985

**raui** Rohwer. Fla., Ala.

## Genus ZANYSSON Rohwer, p. 985

**fuscipes** (Cresson). Ala.

**plesius** (Rohwer). Ala.

## Genus METANYSSON Ashmead, pp. 985-986

(= *Huachuca* Pate, p. 986)

Fritz (Neotropica 2: 91, 1957) demonstrates that the subgenus *Huachuca* Pate is not valid. Delete the subgeneric headings *Metanysson* Ashmead and *Huachuca* Pate, and transfer bibliographic citation for the latter from p. 986 to p. 985.

## ARGOGORYTES subgenus ARCHARPACTUS Pate, p. 986

**nigrifrons** (Smith). Wis.

## Genus OCHLEROPTERA Holmberg, p. 986

**bipunctata** (Say). Prey: *Coelidia olitoria* (Say), nymph.

Taxonomy: Evans, 1959a, *loc. cit. supra*, p. 152 (larva).



## AMMATOMUS subgenus TANYOPRYMNUS Cameron, pp. 986-987

**moneduloides** (Packard). Nests in vertical sand banks. Prey: *Rhynchomitra microrrhina* (Wlkr.), adults and nymphs.

Biology: Krombein, 1959. Ent. Soc. Wash. Proc. 61: 195.

## SPHECIUS subgenus SPHECIUS Dahlbom, p. 987

**speciosus** (Drury).

Biology: Lin, N., 1963. Behavior 20: 115-133, 6 figs. (territoriality of males.—Lin, N., 1964. Brooklyn Ent. Soc. Bul. 58: 121-123 (fighting of nesting females).

## Genus LESTIPHORUS Lepeletier, p. 988

The generic name *Lestiphorus*, and its type species, *Crabro bicinctus* Rossi, were placed on the Official Lists of Generic and Specific Names of the International Commission on Zoological Nomenclature (Bul. Zool. Nomencl. 20: 331-332, 1963).

## HARPACTOSTIGMA subgenus ARCESILAS Pate, p. 989

**laminiferum** (Fox). Idaho, Utah. Prey: *Scolops* sp., possibly *hesperius* Uhl., nymphs and adults.

Biology: Gittins, 1958. Pan-Pacific Ent. 34: 142.

## Genus PSAMMALETES Pate, p. 989

**pechumani** Pate. Ind.

## PSAMMAECIUS subgenus HOPLISOIDES Gribodo, pp. 989-991

**adornatus** (Bradley). Prey: Nymphs of Membracidae.

Taxonomy: Evans, 1959a, *loc. cit. supra*, pp. 151-152, fig. 40 (larva).

Biology: Powell and Chemsak, 1959, Pan-Pacific Ent. 35: 195-201.

**costalis** (Cresson). N. Y. Prey: *Stictocephala* sp. near *borealis* (Fairm.), adults.

Taxonomy: Evans, 1959a, *loc. cit. supra*, p. 151, figs. 39, 62 (larva).

Biology: Krombein, 1959. Ent. Soc. Wash. Proc. 61: 196.

**denticulatus** (Packard). Prey: Deltoccephaline nymph.

Biology: Krombein, 1959, *loc. cit. supra*, p. 196.

**nebulosus** (Packard). Prey: *Microcentrus* sp., nymph.

Biology: Krombein, 1959, *loc. cit. supra*, p. 196.

## GORYTES subgenus GORYTES Latreille, pp. 991-992

**angustus** (Provancher). Change ♀ to "♀" = ♂ in original citation of *angustus*.

**canaliculatus** Packard. Mass., Pa., Md. Nests in sand. Prey: Cicadellidae (*Macropsis viridis* (Fitch) adult, *Idiocerus* sp. nymphs).

Biology: Krombein, 1964. Brooklyn Ent. Soc. Bul. 58: 119.

\***deceptor** Krombein. N. H. south to Va., west to Ont., Minn., Nebr., Kans. Prey: Adult *Spissistylus constans* (Wlk.).

*Gorytes* (*Gorytes*) **deceptor** Krombein, 1958. Ent. Soc. Wash. Proc. 60: 62. ♀, ♂.

\***mcateei** Krombein and Bohart. N. Y., Pa., Md., D. C., Va.

*Gorytes* (*Gorytes*) **mcateei** Krombein and Bohart, 1962. Biol. Soc. Wash. Proc. 75: 15. ♀.

## Genus STIZUS Latreille, pp. 993-994

**occidentalis** Parker. Ariz.

## Genus STIZOÏDES Guérin, p. 994

\**Omphalium* Vachal, 1899. Soc. Ent. France Ann. 68: 534. Preocc.

Type: *Omphalium niger* Vachal. By monotypy.

\**Scotomphales* Vachal, 1900. Soc. Ent. France Bul. p. 233. N. name.  
Revision: Gillasp, 1963. Mus. Comp. Zool. Bul. 128: 369-391, 1 pl.

\**foxi* Gillasp. Ariz.; Mexico (Baja California). (*Tachystizus*)  
*Stizoides* (*Tachystizus*) *foxi* Gillasp, 1963. Mus. Comp. Zool. Bul. 128:  
378, figs. 1, 2, 5, 7, 9, 11. ♀, ♂.

*unicinctus* (Say). N. C., Alta., B. C.; Mexico (Zacatecas). Host: *Prionyx*  
*thomae* (F.). (*Tachystizus*)

Genus *BEMBECINUS* Costa, pp. 994-995

*cressoni* (Cameron), n. comb. Transf. from *Nysson* subg. *Nysson*, p. 982 (*teste*  
K. V. Krombein, who examined the type).

*godmani godmani* (Cameron).

Taxonomy: Willink, 1957. Ann. Mag. Nat. Hist. (12) 9: 702-704.—

Evans, 1959a, *loc. cit. supra*, pp. 152-153, figs. 71-73 (larva).

*moneduloides* (Smith).

Taxonomy: Willink, 1957, *loc. cit. supra*, pp. 701-702.

Genus *STENIOLIA* Say, p. 995

Revision: Gillasp, 1964. Amer. Ent. Soc. Trans. 89: 1-117, 6 pls.

Biology: Evans and Gillasp, 1964. Amer. Midland Nat. 72: 257-280, 14  
figs.

All species of the genus whose biology is known use adult flies as prey,  
principally Bombyliidae.

*albicantia* Parker. Subsp. of *scolopacea* Handlirsch.

\**californiensis* Gillasp. Calif.; Mexico (Baja California).

*Steniolia californiensis* Gillasp, 1964. Amer. Ent. Soc. Trans. 89: 52,  
figs. 5, 10, 25, 29, 34, 50. ♂, ♀.

\**dissimilis* C. L. Fox. Southern Ariz.; Mexico (Sonora, Sinaloa).

*Steniolia dissimilis* C. L. Fox, 1923. Calif. Acad. Sci. Proc. 12: 429. ♂,  
♀.

*duplicata* Provancher. Western Tex. to Calif., Nev.; Mexico (Baja California,  
Chihuahua, Coahuila). Remove *scolopacea* Handlirsch, a valid  
sp., from syn. Place *Nom. nud.* after citation for *S. edwardsii*  
Patton. Prey: Adult Bombyliidae, Syrphidae and Muscoidea.

Biology: Evans and Gillasp, 1964, *loc. cit. supra*, pp. 274-276.

Taxonomy: Evans, 1964, *loc. cit. supra*, pp. 263-264, figs. 34-36 (larva).

\**elegans* Parker. Wyo. to Wash., south to western Tex. and southern Calif.;  
Mexico (Baja California, Sonora, Coahuila, Aguascalientes, San  
Luis Potosi, Hidalgo).

*Steniolia elegans* Parker, 1929. U. S. Natl. Mus. Proc. 75 (5): 50. ♂.

Biology: Evans and Gillasp, 1964, *loc. cit. supra*, p. 276.

\**eremica* Gillasp. Southern Calif., Ariz., Nev. Prey: Adult asilid, *Efferia*  
*texana* (Bks.).

*Steniolia eremica* Gillasp, 1964. Amer. Ent. Soc. Trans. 89: 67, figs. 14,  
38, 54, 84. ♂, ♀.

*nigripes* Parker. Mexico (Baja California). Prey: Adult bombyliid fly,  
*Aphoebantus* sp.

Biology: Evans and Gillasp, 1964, *loc. cit. supra*, pp. 273-274.

*obliqua* (Cresson). Mont. to N. Mex., west to B. C. and Calif. Prey: Principally  
adult Bombyliidae of genus *Villa*; occasionally Syrphidae  
(*Pipiza*) and Calliphoridae (*Lucilia*).

Biology: Evans and Gillasp, 1964, *loc. cit. supra*, pp. 266-272, figs. 1-10,  
13, 14.

Taxonomy: Evans, 1964, *loc. cit. supra*, p. 265, fig. 45 (larva).

*scolopacea albicantia* Parker, changed status. B. C. to northern Calif., Idaho.

*Steniolia albicantia* Parker. Reduced to subsp. rank (*teste* Gillasp,  
1964, *loc. cit. supra*, p. 75).

**scolopacea** *scolopacea* Handlirsch, changed status. Calif., Nev.; Mexico (Baja California).

*Steniolia duplicata* Provancher of Catalog, in part. *S. scolopacea* is a valid sp. (teste Gillaspy, 1964, *loc. cit. supra*, p. 71, figs. 8, 15, 33, 39, 55, 68, 77, 85).

**tibialis** Handlirsch. Wash. to Calif., Nev., Idaho. Prey: Adult bombyliid fly, *Conophorus nigripennis* (Lw.) and syrphid fly, *Syrphus* sp.

Biology: Evans and Gillaspy, 1964, *loc. cit. supra*, p. 276.

\***vanduzeei** Gillaspy. Calif., Nev.

*Steniolia vanduzeei* Gillaspy, 1964. Amer. Ent. Soc. Trans. 89: 62, figs. 13, 37, 53, 83. ♂, ♀.

#### Genus STICTIELLA Parker, pp. 995-996

Taxonomy: Gillaspy, 1959. Pan-Pacific Ent. 35: 193 (species groups).—Gillaspy, Evans and Lin, C. S., 1962. Ent. Soc. Amer. Ann. 55: 559-566, 1 fig.

Biology: Gillaspy, Evans and Lin, C. S., 1962, *loc. cit. supra*, pp. 559-563, 1 fig.

The species whose biology is known use adult Lepidoptera as prey, and usually mass-provision their cells.

**argentata** C. L. Fox. Transfer to *Glenostictia*, which follows.

**bituberculata** Parker. Transfer to *Glenostictia*, which follows.

**callista** Parker. Prey: Adult Noctuidae and Lycaenidae.

**corniculata** Mickel. Nev., Calif.

Taxonomy: Gillaspy, 1963. Ent. News 74: 251-252.

**divergens** Parker. Transfer to *Microstictia*, which follows.

**emarginata** (Cresson). Prey: Adult Noctuidae.

**exigua** (Fox). Transfer to *Microstictia*, which follows.

**femorata** (Fox). Transfer to *Microstictia*, which follows.

**formosa** (Cresson). Prey: Adult butterflies and skippers.

Biology: Gillaspy, Evans and Lin, C. S., 1962, *loc. cit. supra*, pp. 560-561.

Taxonomy: Evans, 1964, *loc. cit. supra*, p. 260, figs. 37-41 (larva).

**megacera** Parker. Transfer to *Glenostictia*, which follows.

**melanosterna** Parker. Syn. of *pulchella* (Cresson).

\***nubilosa** Gillaspy. Calif. (Los Angeles).

*Stictiella nubilosa* Gillaspy, 1963. Ent. News 74: 252. ♀.

**pictifrons** (Smith). Transfer to *Glenostictia*, which follows.

**pulchella** (Cresson). Remove *minutula* (Handlirsch) from synonymy and transfer it to *Xerostictia* Gillaspy. Prey: Adult Pyraustidae and Noctuidae.

*Stictiella melanosterna* Parker. Syn. by Gillaspy, 1963. Ent. News 74: 252.

Biology: Gillaspy, Evans and Lin, C. S., 1962, *loc. cit. supra*, pp. 562-563.

Taxonomy: Evans, 1964, *loc. cit. supra*, pp. 260-261, fig. 42 (larva).

**pulla** (Handlirsch). Transfer to *Glenostictia*, which follows.

**scitula** (Fox). Transfer to *Glenostictia*, which follows.

**serrata** (Handlirsch). Prey: Adult moths, Phycitidae, Olethreutidae, Pyraustidae, Crambidae, and Epipaschiidae.

Biology: Gillaspy, Evans and Lin, C. S., 1962, *loc. cit. supra*, pp. 561-562, fig. 1.—Krombein, 1964. Amer. Mus. Novitates 2201: 19-20.

**spinifera** (Mickel). Transfer to *Glenostictia*, which follows.

**tenuicornis** (Fox). Transfer to *Glenostictia*, which follows.

*terlinguae* C. L. Fox. Transfer to **Glenostictia**, which follows.

**\*Genus GLENOSTICTIA** Gillasp

**Glenostictia** Gillasp, 1962. In Gillasp, Evans and Lin, C. S., Ent. Soc. Amer. Ann. 55: 563.

Type: **Monedula pulla** Handlirsch. Orig. desig.

Biology: Gillasp, Evans and Lin, C. S., 1962, *loc. cit. supra*, pp. 563-566.

Place after **Stictiella** Parker, p. 996. Some species practice progressive provisioning and prey on Diptera and occasionally Hymenoptera.

**argentata** (C. L. Fox). Transferred from **Stictiella**, p. 995 (*teste* Gillasp, Evans and Lin, C. S., 1962, *loc. cit. supra*, p. 563).

**bituberculata** (Parker). Transferred from **Stictiella**, p. 995 (*teste* Gillasp, Evans and Lin, C. S., 1962, *loc. cit. supra*, p. 563).

**\*clypeata** (Gillasp). Western Tex. to southern Calif., south into Mex. (Chihuahua, Coahuila, Guerrero). Prey: *Tubifera latifrons* (Lw.) and Apiceratidae.

**Stictiella clypeata** Gillasp, 1959. Pan-Pacific Ent. 35: 187. ♂, ♀. (Transf. to **Glenostictia** by Gillasp, Evans and Lin, C. S., 1962, *loc. cit. supra*, p. 563.)

**\*gilva** Gillasp. Ariz.

**Glenostictia gilva** Gillasp, 1963. Ent. News 74: 198. ♂, ♀.

**megacera** (Parker). Transferred from **Stictiella**, p. 996 (*teste* Gillasp, Evans and Lin, C. S., 1962, *loc. cit. supra*, p. 563).

**pictifrons** (Smith). Transferred from **Stictiella**, p. 996 (*teste* Gillasp, Evans and Lin, C. S., 1962, *loc. cit. supra*, p. 563). Prey: *Villa* sp.

**pulla** (Handlirsch). Transferred from **Stictiella**, p. 996 (*teste* Gillasp, Evans and Lin, C. S., 1962, *loc. cit. supra*, p. 563). Prey: Adult Muscidae, Sarcophagidae, Tachinidae, Syrphidae, Therevidae and Bombyliidae.

Biology: Gillasp, Evans and Lin, C. S., 1962, *loc. cit. supra*, p. 564.

**scitula** (Fox). Transferred from **Stictiella**, p. 996 (*teste* Gillasp, Evans and Lin, C. S., 1962, *loc. cit. supra*, p. 563). Prey: Adult Asilidae, Scenopinidae (*Scenopinus*) and Andrenidae (*Perdita*).

Biology: Gillasp, Evans and Lin, C. S., 1962, *loc. cit. supra*, pp. 564-566.

Taxonomy: Evans, 1964, *loc. cit. supra*, p. 262, figs. 48-52 (larva).

**spinifera** (Mickel). Transferred from **Stictiella**, p. 996 (*teste* Gillasp, Evans and Lin, C. S., 1962, *loc. cit. supra*, p. 563).

**tenuicornis** (Fox). Transferred from **Stictiella**, p. 996 (*teste* Gillasp, Evans and Lin, C. S., 1962, *loc. cit. supra*, p. 563). Calif., Nev.; Mexico (Baja California).

Taxonomy: Gillasp, 1959. Pan-Pacific Ent. 35: 191.

**terlinguae** (C. L. Fox). Transferred from **Stictiella**, p. 996 (*teste* Gillasp, Evans and Lin, C. S., 1962, *loc. cit. supra*, p. 563).

**\*Genus XEROSTICTIA** Gillasp

**Xerostictia** Gillasp, 1963. Ent. News 74: 187.

Type: **Xerostictia longilabris** Gillasp. By monotypy.

Place after **Glenostictia** Gillasp.

**\*longilabris longilabris** Gillasp. Ariz., Calif. Another subspecies occurs in Baja California.

**Xerostictia longilabris longilabris** Gillasp, 1963. Ent. News 74: 187, figs. 1-7. ♀, ♂.

**\*Genus MICROSTICTIA** Gillasp

**Microstictia** Gillasp, 1963. Ent. News 74: 196.

Type: **Monedula femorata** Fox. Orig. desig.

Place after *Xerostictia* Gillaspy.

- divergens** (Parker). Transferred from *Stictiella*, p. 995 (*teste* Gillaspy, 1963. Ent. News 74: 198).
- exigua** (Fox). Transferred from *Stictiella*, p. 996 (*teste* Gillaspy, 1963. Ent. News 74: 198).
- femorata** (Fox). Transferred from *Stictiella*, p. 996 (*teste* Gillaspy, 1963. Ent. News 74: 198).
- minutula** (Handlirsch), changed status. Tex.  
*Stictiella pulchella* (Cresson) of Catalog, in part; **minutula** removed from synonymy and transferred to *Microstictia* (*teste* Gillaspy, 1963. Ent. News 74: 198).

Genus *BICYRTE* Lepeletier, pp. 996–997

- capnoptera** (Handlirsch).  
 Biology: Linsley, 1962. Ent. Soc. Amer. Ann. 55: 157–158, fig. 5.
- quadrifasciata** (Say). Prey: Nymphs of Pentatomidae and Coreidae.  
 Biology: Krombein, 1958. Ent. Soc. Wash. Proc. 60: 105–106.—Krombein, 1959. Ent. Soc. Wash. Proc. 61: 196.  
 Taxonomy: Evans, 1964, *loc. cit. supra*, p. 265 (larva).
- variegata** (Olivier). Transf. from *Bembix*, p. 1000.

Genus *MICROBEMBEX* Patton, pp. 997–998

- aurata** Parker. Southern Calif. to western Tex. A valid sp., removed from syn. of *nigrifrons* (Provancher) [see Sup. 1, p. 196]. (*Teste* Gillaspy, 1963. Proc. Ent. Soc. Wash. 65: 230.)
- monodonta** (Say).  
 Taxonomy: Evans, 1964, *loc. cit. supra*, p. 266 (larva).

Genus *STICTIA* Illiger, p. 998

(= *Bembix* Latreille, of Catalog)

- carolina** (Fabricius). Prey: Adult Tabanidae, Calliphoridae, Muscidae, Tachinidae and Sarcophagidae.  
 Biology: Krombein, 1958. Ent. Soc. Wash. Proc. 60: 106–107.—Krombein, 1959. Ent. Soc. Wash. Proc. 61: 196–197.  
 Taxonomy: Evans, 1964, *loc. cit. supra*, p. 268, fig. 55 (larva).
- vivida** (Handlirsch). Prey: *Tabanus texanus* Hine.  
 Biology: Evans, 1957c. Ent. News 68: 76–77.  
 Taxonomy: Evans, 1959a, *loc. cit. supra*, p. 153 (larva).—Evans, 1964, pp. 268–269 (larva).

Genus *BEMBIX* Fabricius, pp. 998–1000

(= *Epibembex* Minkiewicz, of Catalog)

- Biology: Evans, 1957b. Studies in Compar. Ethology *Bembix*, 248 pp., 52 figs., 29 tables.
- amoena** Handlirsch. Nests in rather loose sand not subject to blowing.  
 Prey: a variety of Brachycera and calyptrate Muscoidea.  
 Biology: Evans, 1957b, *loc. cit. supra*, p. 59.  
 Taxonomy: Evans, 1964, *loc. cit. supra*, pp. 270–271, fig. 53 (larva).
- arcuata** Parker. Possibly a syn. of *u-scripta* Fox.  
 Taxonomy: Evans, 1961. Psyche 67: 45–61.
- belfragei** Cresson. Nests in very dry, rather firm, coarse, sandy soil. Prey: a variety of Diptera, principally calyptrate Muscoidea.  
 Biology: Evans, 1957b, *loc. cit. supra*, pp. 59–78.
- cameroni** Rohwer.  
 \**Bembix rohweri* Maidl and Klima, 1948 (1944). N. syn. (Proposed unnecessarily in Lohrmann, München. Ent. Gesell. Mitt. 34: 424 as a replacement name for *cameroni* Rohwer, not *Cameronis*

Handlirsch.)

Taxonomy: Evans, 1964, *loc. cit. supra*, pp. 272-273, figs. 43, 44 (larva).

**cinerea** Handlirsch. Nests in very moist, firm soil on coastal salt flats. Prey: a variety of Brachycera and calyptrate Muscoidea, but principally Tabanidae.

Biology: Evans, 1957b, *loc. cit. supra*, pp. 78-94.

\***citripes** Taschenberg.

**Bembex citripes** Taschenberg, 1870. Gesell. Naturw.-Halle Ztschr. 36: 19. ♀, ♂.

**Bembex multipicta** Smith (syn. by Fritz, 1963. Neotropica 8: 62).

\***Bembex inops** Handlirsch, 1893. Akad. der Wiss. Wien, Math.-Nat. Kl. Sitzber. 102: 833, pl. 2, fig. 32, pl. 7, fig. 23. ♂, ♀.

\***Bembex inopides** Strand, 1910. Zool. Jahrb., Abt. Syst. 29: 150. ♀, ♂.

\***Bembix gradilis** Parker, 1929. U. S. Natl. Mus. Proc. 75 (5): 122. ♂.

\***Bembix bahiae** Parker, 1929. U. S. Natl. Mus. Proc. 75 (5): 138, fig. 90. ♂.

\***Bembix subcitripes** Willink, 1947. Acta Zool. Lilloana 4: 588, fig. 172. ♂.

**comata** Parker. Nests in loose to relatively firm, rather dry sandy soil.

Prey: a wide variety of Brachycera and calyptrate Muscoidea.

Biology: Evans, 1957b, *loc. cit. supra*, pp. 36-48.

**helianthopolis** Parker. Syn. of **troglodytes** Handlirsch.

**hinei** Parker. Nests in very moist, firm sand on beaches just above high tide mark. Prey: Tabanidae, rarely Stratiomyidae and Syrphidae.

Biology: Evans, 1957b, *loc. cit. supra*, pp. 94-104.

Taxonomy: Evans, 1959a, *loc. cit. supra*, p. 156 (larva).

**multipicta** Smith. Syn. of **citripes** Taschenberg.

**nubilipennis** Cresson. Nests in hard-packed soil. Prey: Principally calyptrate Muscoidea.

Taxonomy: Evans, 1959a, *loc. cit. supra*, p. 155, fig. 42 (larva).

**occidentalis** Fox. Nests in relatively dry sand subject to blowing, mostly in dunes. Prey: a wide variety of Brachycera and calyptrate Muscoidea.

Biology: Evans, 1957b, *loc. cit. supra*, pp. 167-181 (account considers both typical *occidentalis* and *o. beutenmuelleri* Fox).

**pruinosa** Fox. U. and L. Austr. Zones, east of Rockies. Nests in relatively dry sand subject to blowing, mostly in dunes. Prey: a wide variety of Brachycera and calyptrate Muscoidea.

Biology: Evans, 1957b, *loc. cit. supra*, pp. 142-167.

\***rohweri** Maidl and Klima. N. name proposed unnecessarily for **cameroni** Rohwer.

**sayi** Cresson. Nests in relatively dry, loose sand not subject to blowing. Prey: a variety of Brachycera and calyptrate Muscoidea, but chiefly Tabanidae and Bombyliidae.

Biology: Evans, 1957b, *loc. cit. supra*, pp. 48-59.

**spinolae** Lepeletier. Nests in loose to relatively firm, rather dry sandy soil

Prey: a wide variety of Brachycera and calyptrate Muscoidea.

Biology: Evans, 1957b, *loc. cit. supra*, pp. 17-36.

**texana** Cresson. Nests in loose to very firm, relatively dry sandy soil. Prey: a variety of Brachycera and calyptrate Muscoidea.

Biology: Evans, 1957b, *loc. cit. supra*, pp. 135-141.—Krombein, 1958. Ent. Soc. Wash. Proc. 60: 107-110.

**troglodytes** Handlirsch. Nests in loose, relatively dry sandy soil not subject to blowing. Prey: A variety of Brachycera and calyptrate Muscoidea, principally the latter.

**Bembix helianthopolis** Parker (syn. by Evans, 1957b, *loc. cit. supra*, p. 116).

Biology: Evans, 1957b, *loc. cit. supra*, pp. 116-135.

**u-scripta** Fox. Tex.; Mexico (Guerrero). Nests in heavy clay. Prey: A wide variety of flies, but principally Brachycera.

Biology: Evans, 1957b, *loc. cit. supra*, pp. 104-108.—Evans, 1961. *Psyche* 67: 45-61.

Taxonomy: Evans, 1959a, *loc. cit. supra*, p. 155, figs. 41, 63. (larva).

**variegata** Olivier. Transf. to *Bicyrtes*, p. 997.

### Subfamily PHILANTHINAE

Taxonomy: Evans, 1957a. *Amer Ent. Soc. Trans.* 83: 79-89, figs. 1-35 (larvae).—Evans, 1959a, *loc. cit. supra*, pp. 156-157.

#### Genus PHILANTHUS Fabricius, pp. 1000-1003

**albopilosus** Cresson. Prey: Halictidae, Anthophoridae.

Biology: Evans and Lin, C. S., 1959. *Wasmann Jour. Biol.* 17: 128.

**bicinctus** (Mickel).

*Philanthus hirticulus* (Mickel), n. syn. (*teste* Evans, *in litt.*, based on biol. observations).

Taxonomy: Evans, 1964, *loc. cit. supra*, pp. 275-276, figs. 65-67 (larva).

**bilunatus** Cresson. Prey: Principally spp. of Halictidae, occasionally Colletidae (*Hylaeus*).

Taxonomy: Evans, 1957a, *loc. cit. supra*, p. 83, fig. 19 (larva).

Biology: Evans and Lin, C. S., 1959, *loc. cit. supra*, pp. 126-127, figs. 4, 5, 9.

**eurynome** Fox. Prey: *Apis mellifera* L.

Biology: Evans and Lin, C. S., 1959, *loc. cit. supra*, pp. 128-129.

**gibbosus** (Fabricius). Prey: Principally spp. of Halictidae, occasionally Sphecidae (*Crossocerus*).

Taxonomy: Evans, 1957a, *loc. cit. supra*, p. 82, figs. 11-15 (larva).

Biology: Evans and Lin, C. S., 1959, *loc. cit. supra*, pp. 124-125, fig. 3.

**hirticulus** (Mickel). Syn. of *bicinctus* (Mickel).

**lepidus** Cresson. Prey: Usually spp. of Halictidae, occasionally Andrenidae.

Biology: Evans, 1964. *Psyche* 71: 142-149, 4 figs.

**politus pacificus** Cresson. Prey: Principally halictid bees, but occasional specimens of Andrenidae, Sphecidae, Vespidae and Ichneumonoidea are used.

Biology: Powell and Chemsak, 1959. *Kans. Ent. Soc. Jour.* 32: 115-120.

**politus politus** Say. Prey: Usually spp. of Halictidae, occasionally spp. of Colletidae (*Hylaeus*) and Andrenidae (*Calliopsis*).

Taxonomy: Evans, 1957a, *loc. cit. supra*, p. 84, fig. 20 (larva).

Biology: Evans and Lin, C. S., 1959, *loc. cit. supra*, pp. 116-120, figs. 1, 2.

**solivagus** Say. Prey: Principally spp. of Halictidae, occasionally Sphecidae (Crabroninae), Vespidae (*Ancistrocerus*), Colletidae (*Colletes*) and Andrenidae (*Andrena*).

Taxonomy: Evans, 1957a, *loc. cit. supra*, p. 83, figs. 16-18 (larva).

Biology: Evans, and Lin, C. S., 1959, *loc. cit. supra*, pp. 120-124, figs. 6-8.

**ventilabris** Fabricius. Prey: Halictidae, Andrenidae.

Biology: Evans and Lin, C. S., 1959, *loc. cit. supra*, p. 127.

#### APHILANTHOPS subgenus APHILANTHOPS Patton, p. 1003

**frigidus** (Smith).

Taxonomy: Evans, 1957a, *loc. cit. supra*, p. 81, figs. 1-10 (larva).

Biology: Evans, 1962. *Behavior* 19: 240-245, fig. 1a.

**subfrigidus** Dunning. Prey: Queen in *Formica fusca* group.

#### APHILANTHOPS subgenus CLYPEADON Patton, pp. 1003-1004

Nests are provisioned with workers of *Pogonomyrmex*.

\***californica** Bohart. Calif.

*Aphilanthops (Clypeadon) californica* Bohart, 1959. Ent. Soc. Amer. Ann. 52: 108. ♂, ♀.

**concinulus** Cockerell. Prey: Worker ant, *Pogonomyrmex barbatus* (Sm.).

\***dreisbachi** Bohart. Tex., Okla., Colo.; Mexico (Zacatecas, Jalisco, Nayarit, Queretaro, San Luis Potosi). Prey: Worker ants, *Pogonomyrmex barbatus rugosus* Em.

*Aphilanthops (Clypeadon) dreisbachi* Bohart, 1959. Ent. Soc. Amer. Ann. 52: 107. ♂, ♀.

Biology: Evans, 1962. Behavior 19: 249.

\***haigi** Bohart. Ariz. to western Tex. Prey: Worker ants, *Pogonomyrmex barbatus rugosus* Em.

*Aphilanthops (Clypeadon) haigi* Bohart, 1959. Ent. Soc. Amer. Ann. 52: 106. ♂, ♀.

Biology: Evans, 1962. Behavior 19: 245-248, figs. 1b, 2, 3, 4b.

**laticinctus** (Cresson). Prey: Worker ants, *Pogonomyrmex occidentalis* Cr.

Biology: Evans, 1962. Behavior 19: 250-253.

Taxonomy: Evans, 1964, *loc. cit. supra*, pp. 274-275, figs. 63-64 (larva).

\***sculleni** Bohart. Ariz., Colo., N. Mex., Tex.; Mexico (Chihuahua). Prey: Worker ants, *Pogonomyrmex maricopa barnesi* M. R. Sm.

*Aphilanthops (Clypeadon) sculleni* Bohart, 1959. Ent. Soc. Amer. Ann. 52: 107. ♂, ♀.

\***APHILANTHOPS** subgenus **LISTROPYGIA** Bohart

*Aphilanthops* subg. *Listropygia* Bohart, 1959. Ent. Soc. Amer. Ann. 52: 106.

Type: *Aphilanthops (Listropygia) bechteli* Bohart. By orig. desig. and monotypy.

Place after *Aphilanthops* subg. *Clypeadon*, p. 1004.

\***bechteli** Bohart. Southern Calif. Prey: Workers of *Pogonomyrmex californicus* Buck.

*Aphilanthops (Listropygia) bechteli* Bohart, 1959. Ent. Soc. Amer. Ann. 52: 106. ♂, ♀.

**Genus Trachypus** Klug, p. 1004

Delete this heading and all entries under it. *Trachypus annulitarsis* Cameron is from Nicaragua, not ? Southwest. States (*teste* K. V. Krombein who examined labels on type specimen).

**Genus CERCERIS** Latreille, pp. 1004-1011**acanthophila** Cockerell.

*Cerceris minax* Mickel (syn. by Scullen, 1960. Pan-Pacific Ent. 36: 75).

*Cerceris huachuca* Banks (syn. by Scullen, 1960, *loc. cit. supra*, p. 75).

**architis** Mickel. Syn. of **halone** Banks.**argyrotricha** Rohwer. Syn. of **californica** Cresson.**arno** Banks. Syn. of **californica** Cresson.**athene** Banks. Syn. of **femurrubrum** Viereck and Cockerell.\***azteca** Saussure. Ariz.; Mexico.

*Cerceris azteca* Saussure, 1867. Reise d. Novara, Zool., v. 2, Hym., p. 97. ♀.

*Cerceris seminigra* Banks (syn. by Scullen, 1961. Pan-Pacific Ent. 37: 45).

**belfragei** Banks. Syn. of **compacta** Cresson.**bicornuta** **bicornuta** Guérin. Mexico. In citation of Cartwright article under Biology, change p. 35 to p. 31.

\**Cerceris curvicornis* Cameron, 1890. Biol. Cent.-Amer., Hym., v. 2, p. 124, pl. 8, fig. 3. ♂. (Syn. by Scullen, 1961, *loc. cit. supra*, p. 45.)



**bicornuta fidelis** Viereck and Cockerell. Prey: *Eupagoderes* sp.

Biology: Krombein, 1960. Brooklyn Ent. Soc. Bul. 55: 75-76.

**biungulata** Cresson. Syn. of **sexta** Say.

**blakei** Cresson. Nests in vertical burrows in sand. Prey: Principally adult Curculionidae, especially *Derelomus basalis* LeC., and occasionally Chrysomelidae and Tenebrionidae.

**Cerceris elegantissima** Schletterer (syn. by Scullen, 1961. Pan-Pacific Ent. 37: 45).

Biology: Krombein, 1963. Brooklyn Ent. Soc. Bul. 58: 72-79.

**californica** Cresson.

**Cerceris ferruginior** Viereck and Cockerell (syn. by Scullen, 1960. Pan-Pacific Ent. 36: 75).

**Cerceris garciana** Viereck and Cockerell (syn. by Scullen, 1960, *loc. cit. supra*, p. 75).

**Cerceris populorum** Viereck and Cockerell (syn. by Scullen, 1960, *loc. cit. supra*, p. 75).

**Cerceris argyrotricha** Rohwer (syn. by Scullen, 1960, *loc. cit. supra*, p. 75).

**Cerceris cognata** Mickel (syn. by Scullen, 1960, *loc. cit. supra*, p. 75).

**Cerceris denticularis** Banks (syn. by Scullen, 1960, *loc. cit. supra*, p. 75).

**Cerceris arno** Banks (syn. by Scullen, 1960, *loc. cit. supra*, p. 75).

**Cerceris illota** Banks (syn. by Scullen, 1960, *loc. cit. supra*, p. 75).

**Cerceris isolde** Banks (syn. by Scullen, 1960, *loc. cit. supra*, p. 75).

**Cerceris calodera** Banks (syn. by Scullen, 1961. Pan-Pacific Ent. 37: 46).

**calodera** Banks. Syn. of **californica** Cresson.

**catawba** Banks. Syn. of **compar** Cresson.

**clypeata** Dahlbom.

**Cerceris imitatoria** Schletterer (syn. by Scullen, 1960. Pan-Pacific Ent. 36: 77).

**Cerceris zobeide** Brimley (syn. by Scullen, 1960, *loc. cit. supra*, p. 77).

**Cerceris zosma** Brimley (syn. by Scullen, 1960, *loc. cit. supra*, p. 77).

Taxonomy: Evans, 1957a, *loc. cit. supra*, p. 86, fig. 31 (larva).

**cognata** Mickel. Syn. of **californica** Cresson.

**compacta** Cresson.

**Cerceris solidaginis** Rohwer (syn. by Scullen, 1960, *loc. cit. supra*, p. 77).

**Cerceris belfragei** Banks (syn. by Scullen, 1960, *loc. cit. supra*, p. 77).

**compar compar** Cresson, changed status.

**Cerceris zelica** Banks (syn. by Scullen, 1960, *loc. cit. supra*, p. 77).

**Cerceris catawba** Banks (syn. by Scullen, 1960, *loc. cit. supra*, p. 77).

**Cerceris compar** Cresson. Reduced to subsp. rank by Scullen, 1962 (Pan-Pacific Ent. 38: 57).

**compar orestes** Banks, changed status.

**Cerceris orestes** Banks. Reduced to subsp. rank (*teste* Scullen, 1962, *loc. cit. supra*, p. 57).

**complanata** Mickel. Syn. of **vanduzeei** Banks.

**denticularis** Banks. Syn. of **californica** Cresson.

**deserta** Say. Add Preocc. after citation for **fulvipes**, and add N. name after citation for **fulvipediculata**.

**\*dilatata** Spinola. Ariz. to French Guiana.

**Cerceris dilatata** Spinola, 1841. Soc. Ent. France Ann. 10: 118. ♂.

**\*Cerceris maximiliani** Saussure, 1867. Reise d. Novara, Zool., v. 2, Hym., p. 94. ♀. (Syn. by Scullen, 1961. Pan-Pacific Ent. 37: 46).

**Cerceris semiatra** Banks (syn. by Scullen, 1961, *loc. cit. supra*, p. 46).

**elegantissima** Schletterer. Syn. of **blakei** Cresson.

**femurrubrum** Viereck and Cockerell. Prey: *Eurymetopon rufipes* Esch.

***Cerceris athene*** Banks (syn. by Scullen, 1960, *loc. cit. supra*, p. 78).

Biology: Wasbauer, 1957. Pan-Pacific Ent. 33: 131.

***ferruginior*** Viereck and Cockerell. Syn. of ***californica*** Cresson.

***finitima finitima*** Cresson, changed status.

***Cerceris finitima*** Cresson. Reduced to subsp. rank (*teste* Scullen, 1960, *loc. cit. supra*, p. 80).

***finitima vierecki*** Banks, changed status.

***Cerceris vierecki*** Banks. Reduced to subsp. rank (*teste* Scullen, 1960, *loc. cit. supra*, p. 80).

***firma*** Cresson. Syn. of ***verticalis*** Smith.

***flavofasciata flavofasciata*** H. S. Smith, changed status. Reduced to subsp. (*teste* H. A. Scullen, *in litt.*). Insert H. S. before Smith in specific heading and in orig. cit. Nests in vertical sand banks. Prey: *Chlamisus* sp., *Cryptocephalus mutabilis* Melsh., *C. guttulatus* Oliv., *Bassareus clathratus* Melsh.

Biology: Krombein, 1959. Ent. Soc. Wash. Proc. 61: 197-198.

***flavofasciata floridensis*** Banks, changed status. Subsp. of ***flavofasciata*** (*teste* H. A. Scullen, *in litt.*). Nests in vertical sand banks. Prey: *Cryptotocephalus* spp., *Coscinoptera dominicana* (F.), *Chlamisus* sp.

Taxonomy: Evans, 1964, *loc. cit. supra*, p. 276, figs. 68-70 (larva).

Biology: Krombein, 1964. Amer. Mus. Novitates 2201: 20-22.

***floridensis*** Banks. Subsp. of ***flavofasciata*** H. S. Smith.

***frontata frontata*** Say, changed status. Prey: *Eupagoderes* sp., *Cleonus pulvereus* (Lec.).

***Cerceris frontata*** Say. Reduced to subsp. rank (*teste* Scullen, 1960, *loc. cit. supra*, p. 80).

***Cerceris occidentalis*** Saussure (syn. by Scullen, 1961, *loc. cit. supra*, p. 47).

***Cerceris texensis*** Saussure (syn. by Scullen, 1961, *loc. cit. supra*, p. 47).

Biology: Krombein, 1960. Brooklyn Ent. Soc. Bul. 55: 76-77.

Taxonomy: Evans, 1964, *loc. cit. supra*, pp. 277-278 (larva).

***frontata raii*** Rohwer, changed status.

***Cerceris raii*** Rohwer. Reduced to subsp. rank (*teste* Scullen, 1960, *loc. cit. supra*, p. 80).

***fugatrix*** Mickel. Syn. of ***stigmosalis*** Banks.

***fumipennis*** Say. Prey: Adults of *Chrysobothris femorata* (Oliv.) and *Dicerca lurida* (F.).

Taxonomy: Evans, 1957a, *loc. cit. supra*, p. 84, figs. 21-26 (larva).—Evans, 1959a, *loc. cit. supra*, p. 156 (larva).

Biology: Krombein, 1958. Ent. Soc. Wash. Proc. 60: 110.

***garciana*** Viereck and Cockerell. Syn. of ***californica*** Cresson.

***gnara*** Cresson. Syn. of ***verticalis*** Smith.

***halone*** Banks.

***Cerceris architis*** Mickel (syn. by Scullen, 1960, *loc. cit. supra*, p. 78).

Biology: Byers, 1962. Kans. Ent. Soc. Jour. 35: 317-321.

***huachuca*** Banks. Syn. of ***acanthophila*** Cockerell.

***illota*** Banks. Syn. of ***californica*** Cresson.

***imitatoria*** Schletterer. Syn. of ***clypeata*** Dahlbom.

***insolita*** Cresson. Nests in sand. Prey: *Rhabdopterus praetextus* (Say).

***Cerceris intractibilis*** Mickel (syn. by Scullen, 1962. Pan-Pacific Ent. 38: 58).

Biology: Krombein, 1964. Brooklyn Ent. Soc. Bul. 58: 119.

***intractibilis*** Mickel. Syn. of ***insolita*** Cresson.

***isolde*** Banks. Syn. of ***californica*** Cresson.

*mimica* Cresson. Mexico.

\**Cerceris esau* Schletterer, 1887. Zool. Jahrb., Ztschr. f. System. 2: 458.  
♀. (Syn. by Scullen, 1961, *loc. cit. supra*, p. 47).

*minax* Mickel. Syn. of *acanthophila* Cockerell.

*munda* Mickel. Syn. of *nigrescens* Smith.

*nebrascensis* H. S. Smith. Insert H. S. before Smith in specific heading and in original citation.

*nigrescens* Smith.

*Cerceris munda* Mickel (syn. by Scullen, 1960, *loc. cit. supra*, p. 79).

*occidentalis* Saussure. Syn. of *frontata frontata* Say.

*orestes* Banks. A subsp. of *compar* Cresson.

*orphne* Banks. Syn. of *sexta* Say.

*populorum* Viereck and Cockerell. Syn. of *californica* Cresson.

*raui* Rohwer. A subsp. of *frontata* Say.

\**robertsonii emmiltosus* Scullen. Fla., Ga. Prey: *Colaspis favosa* Say, *Paria* sp.

*Cerceris robertsonii emmiltosus* Scullen, 1964. Ent. News 75: 144. ♀.

Taxonomy: Evans, 1964, *loc. cit. supra*, p. 277 (larva).

Biology: Krombein, 1964. Amer. Mus. Novitates 2201: 22-23.

*robertsonii robertsonii* Fox, changed status. Insert H. S. before Smith in original citation of *pleuralis*. Reduced to subsp. rank (*teste* Scullen, 1964, *loc. cit. supra*, p. 144).

Taxonomy: Evans, 1957a, *loc. cit. supra*, p. 86, figs. 27-30 (larva).—  
Evans, 1959a, *loc. cit. supra*, pp. 156-157 (larva).

*semiatria* Banks. Syn. of *dilatata* Spinola.

*seminigra* Banks. Syn. of *azteca* Saussure.

*sexta* Say.

*Cerceris biungulata* Cresson (syn. by Scullen, 1960, *loc. cit. supra*, p. 79).

*Cerceris orphne* Banks (syn. by Scullen, 1961, *loc. cit. supra*, p. 47).

*sextoides* Banks. Syn. of *tepaneca* Saussure.

*solidaginis* Rohwer. Syn. of *compacta* Cresson.

*stigmatosalis* Banks.

*Cerceris fugatrix* Mickel (syn. by Scullen, 1960, *loc. cit. supra*, p. 79).

\**tepaneca* Saussure. Western U. S. to Mexico.

*Cerceris tepaneca* Saussure, 1867. Reise d. Novara, Zool., v. 2, Hym., p. 90. ♂.

*Cerceris sextoides* Banks (syn. by Scullen, 1961, *loc. cit. supra*, p. 48).

*texensis* Saussure. Syn. of *frontata frontata* Say.

\**tolteca* Saussure. Ga., Fla., La., Tex.; Mexico, Honduras.

\**Cerceris Tolteca* Saussure, 1867. Reise d. Novara, Zool., v. 2, Hym., p. 94. ♀, ♂.

\**Cerceris cosmiocephala* Cameron, 1904. Invert. Pacifica 1: 67. ♂. (Syn. by Scullen, 1961, *loc. cit. supra*, p. 48).

\**truncata* Cameron. Tex., Ariz.; Mexico. Prey: Bruchid beetles, principally *Algarobius prosopis* (Lec.), *Mimosastes protractus* (Horn), *M. amicus* (Horn) and *Neltumius arizonensis* (Schffr.).

*Cerceris truncata* Cameron, 1890. Biol. Cent.-Amer., Hym., v. 2, p. 121, pl. 7, figs. 19, 20. ♀, ♂.

Biology: Werner, 1960. Psyche 67: 43-44.

*vanduzeei* Banks.

*Cerceris complanata* Mickel (syn. by Scullen, 1960, *loc. cit. supra*, p. 80).

*verticalis* Smith.

*Cerceris gnara* Cresson (syn. by Scullen, 1961, *loc. cit. supra*, p. 48).

*Cerceris firma* Cresson (syn. under *gnara* Cresson by Scullen, 1960, *loc. cit. supra*, p. 78).

*vierecki* Banks. A subsp. of *finitima* Cresson.

*zelica* Banks. Syn. of *compar* Cresson.

*zobeide* Brimley. Syn. of *clypeata* Dahlbom.

*zosma* Brimley. Syn. of *clypeata* Dahlbom.

#### Genus EUCERCERIS Cresson, pp. 1011-1013

*apicata* Banks, changed status. Ariz., western Tex., western Nebr.

*Eucerceris elegans* Cresson of Catalog, in part. *E. apicata* is a valid sp. (*teste* H. A. Scullen, *in litt.*).

*Eucerceris conata* Scullen, n. syn. (*teste* H. A. Scullen, *in litt.*).

*Eucerceris hespera* Scullen, n. syn. (*teste* H. A. Scullen, *in litt.*).

*arizonensis* Scullen. Syn. of *lacunosa* Scullen.

*bitruncata* Scullen. Syn. of *pimarum* Rohwer.

*conata* Scullen. Syn. of *apicata* Banks.

*elegans* Cresson. Delete Ariz. and Nebr. from range. Add Preocc. in *Cerceris* after citation for *elegans*, and add N. name after citation for *nevadensis*. Remove *pimarum* Rohwer and *apicata* Banks, both valid spp., from syn.

*flavocincta* Cresson.

Taxonomy: Evans, 1957a, *loc. cit. supra*, p. 88, figs. 32-35 (larva).

*hespera* Scullen. Syn. of *apicata* Banks.

*lacunosa* Scullen.

*Eucerceris arizonensis* Scullen (syn. by Scullen, 1961, *loc. cit. supra*, p. 48).

*montana* Cresson. Mexico.

\**Cerceris sonorensis* Cameron, 1891. Biol. Cent.-Amer., Hym., v. 2, p. 129, pl. 8, fig. 10. ♂. (Syn. by Scullen, 1961, *loc. cit. supra*, p. 49.)

*pimarum* Rohwer, changed status. Southern Ariz. to western Tex. Prey: *Minyomeres languidus* Horn.

*Eucerceris elegans* Cresson of Catalog, in part. *E. pimarum* is a valid sp. (*teste* H. A. Scullen, *in litt.*).

*Eucerceris bitruncata* Scullen, n. syn. (*teste* H. A. Scullen, *in litt.*).

*Eucerceris triciliata* Scullen, n. syn. (*teste* H. A. Scullen, *in litt.*).

Biology: Krombein, 1960. Brooklyn Ent. Soc. Bul. 55: 77-79.

Taxonomy: Evans, 1964, *loc. cit. supra*, pp. 278-279, figs. 71-73 (larva).

*triciliata* Scullen. Syn. of *pimarum* Rohwer.

#### Subfamily CRABRONINAE

Taxonomy: Evans, 1957a, *loc. cit. supra*, pp. 99-113, figs. 69-115 (larvae).—Evans, 1959a, *loc. cit. supra*, pp. 163-165, figs. 43-50, 61 (larvae).

#### Genus ANACRABRO Packard, p. 1013

*ocellatus ocellatus* Packard.

Taxonomy: Evans, 1957a, *loc. cit. supra*, p. 102, figs. 75-84 (larva).

#### ENTOMOGNATHUS subgenus TONCAHUA Pate, pp. 1013-1014

Taxonomy: Krombein, 1963. Biol. Soc. Wash. Proc. 76: 247-254 (spp. of eastern U. S.).

\**arenivagus* Krombein. Fla. (Arcadia), N. C. (?). Nests in sand.

*Entomognathus (Toncahua) arenivaga* Krombein, 1963. Biol. Soc. Wash. Proc. 76: 249. ♂, ♀.

*lenapeorum* Viereck. N. J. to Va., Kans. Nests in open wooded areas.

- memorialis** Banks. Conn. to Va., Kans. Nests in open wooded areas.  
**mexicana** Cameron. Delete from catalog; U. S. record based on misident.  
**panurgoides** (Viereck). Syn. of **texanus** Cresson.  
**texanus** Cresson. Pa., Kans. to Tex.; Mexico (Tamaulipas).  
*Entomognathus (Toncahua) panurgoides* (Viereck) (syn. by Krombein, 1963. Biol. Soc. Wash. Proc. 76: 253).

**LINDENIUS** subgenus **TRACHELOSIMUS** Morawitz, p. 1015

- buccadentis** Mickel. Pa.  
**\*californicus** Court and Bohart. Calif.  
*Lindenius californicus* Court and Bohart, 1958. Pan-Pacific Ent. 34: 161, figs. 1, 8, 11. ♂, ♀.  
**dugesianus** Leclercq. Tex., N. Mex., Calif.  
**\*inyoensis** Court and Bohart. Calif. (Inyo Co.).  
*Lindenius inyoensis* Court and Bohart, 1958. Pan-Pacific Ent. 34: 164, figs. 3, 5, 14. ♀, ♂.  
**\*neomexicanus** Court and Bohart. N. Mex., Colo. (Possibly belongs in a different subgenus.)  
*Lindenius neomexicanus* Court and Bohart, 1958. Pan-Pacific Ent. 34: 166, figs. 2, 4, 6, 13. ♀, ♂.  
**\*tylotis** Court and Bohart. Calif.  
*Lindenius tylotis* Court and Bohart, 1958. Pan-Pacific Ent. 34: 164, figs. 9, 10, 12. ♂, ♀.  
 Taxonomy: Evans, 1959a, *loc. cit. supra*, pp. 162-163, figs. 51-53 (larva).

**Genus TRACHELIODES** Morawitz, p. 1015

- amu** Pate.  
 Taxonomy: Evans, 1964, *loc. cit. supra*, pp. 290-291, figs. 104-109 (larva).

**CRABRO** subgenus **SYNOTHYREOPUS** Ashmead, pp. 1016-1017

- advenus** Smith. Prey: Principally muscoid flies, occasionally Rhagionidae and Tabanidae.  
 Taxonomy: Evans, 1957a, *loc. cit. supra*, p. 104, figs. 95-96 (larva).—  
 Evans, 1959a, *loc. cit. supra*, p. 164, figs. 47, 48 (larva).  
 Biology: Evans, 1960. N. Y. Ent. Soc. Jour. 68: 123-127, fig. 1.  
**thyreophorus** Kohl. Oreg.  
**virgatus** Fox. Oreg.

**CRABRO** subgenus **CRABRO** Fabricius, pp. 1017-1018

- discretus** Fox. W. Va. Prey: *Achaetoneura* sp.  
 Biology: Krombein, 1958. Ent. Soc. Wash. Proc. 60: 53.  
**monticola** (Packard). Prey: Principally Tabanidae.  
 Taxonomy: Evans, 1959a, *loc. cit. supra*, p. 163, figs. 43-46 (larva).  
 Biology: Evans, 1960. N. Y. Ent. Soc. Jour. 68: 127-129, fig. 1.—Pechuman, 1963. N. Y. Ent. Soc. Jour. 71: 218-219.  
**pleuralis** Fox. Oreg.

**CRABRO** subgenus **NORUMBEGA** Pate, p. 1018

- argus** (Packard). Prey: Principally Dolichopodidae, occasionally Ephydriidae and Muscidae.  
 Taxonomy: Evans, 1959a, *loc. cit. supra*, p. 164, figs. 49, 50 (larva).  
 Biology: Evans, 1960. N. Y. Ent. Soc. Jour. 68: 129-132, fig. 1.

**EUPLILIS** subgenus **EUPLILIS** Risso, p. 1018

- clavipes** (Linnaeus).  
 Taxonomy: Maréchal, 1929. Soc. Ent. France Ann. 98: 115-116 (larva).

## EUPILIS subgenus CORYNOPUS Lepeletier and Brullé, p. 1019

**arapaho** Pate.

Taxonomy: Evans, 1957a, *loc. cit. supra*, p. 104, figs. 99-103 (larva).

**coarctata modesta** (Rohwer). Nests in dead hibiscus stems. Prey: Adult Chironomidae and Ceratopogonidae.

Biology: Krombein, 1964. Biol. Soc. Wash. Proc. 77: 90-92.

Taxonomy: Evans, 1964, *loc. cit. supra*, pp. 292-293, figs. 111-112 (larva).

**pedicellatus** (Packard).

Taxonomy: Evans, 1957a, *loc. cit. supra*, p. 105, fig. 104 (larva).

**rufigaster** (Packard). Nests in green and dead hibiscus stems, and in desert-ad anobiid beetle borings in wood. Prey: Adult Chironomidae.

Biology: Krombein, 1958. Biol. Soc. Wash. Proc. 71: 26.—Krombein, 1964. Biol. Soc. Wash. Proc. 77: 92-98, figs. 12-14.

Taxonomy: Evans, 1964, *loc. cit. supra*, pp. 291-292, fig. 110 (larva).

## MONIAECERA subgenus MONIAECERA Ashmead, p. 1019

**asperata** (Fox). Nests in soil with communal entrance. Prey: Principally adult Psyllidae, but also Chironomidae, Cicadellidae and Miridae.

Taxonomy: Evans, 1964, *loc. cit. supra*, pp. 293-294, figs. 74-77 (larva).

Biology: Evans, 1964. Ins. Sociaux 11: 71-78, 3 figs.—Cazier and Mortenson, 1964. Pan-Pacific Ent. 40: 111-114, 1 fig.

## CROSSOCERUS subgenus HOPLOCABRO Thomson, p. 1020

**angelicus** (Kincaid). Prey: Muscoid Diptera.

## \*CROSSOCERUS subgenus MICROCRABRO Saussure

(=Crossocerus subg. *Yuchiha* Pate, p. 1020)

**Crabro** subg. **Microcrabro** Saussure, 1892. In Grandidier, Hist. Nat. Madagascar 20: 574.

Type: **Crabro** (**Microcrabro**) **micromegas** Saussure. By monotypy.

Syn. by Leclercq, 1963. Soc. Roy. Ent. Belg. Bul. Ann. 99: 13.

## CROSSOCERUS subgenus CROSSOCERUS Lepeletier and Brullé, pp. 1020-1021

**planifemur** Krombein. Md. (Plummers Is.).

**planipes** (Fox). Pa., Md. Nests in ground. Prey: Empididae (*Drapetis* sp., *Chersodromia* sp.)

Biology: Krombein, 1964. Brooklyn Ent. Soc. Bul. 58: 119-120.

\***spangleri** Krombein. Md. (Plummers Island).

**Crossocerus** (**Crossocerus**) **spangleri** Krombein, 1962. Biol. Soc. Wash. Proc. 75: 16. ♂, ♀.

## CROSSOCERUS subgenus BLEPHARIPUS Lepeletier and Brullé, pp. 1021-1023

**ambiguus** (Dahlbom). Oreg.

Taxonomy: Evans, 1957a, *loc. cit. supra*, p. 106, figs. 69-74 (larva).

Biology: Krombein, 1958. Biol. Soc. Wash. Proc. 71: 26.

**fergusoni** Pate. Nev., Calif.

Taxonomy: Evans, 1957a, *loc. cit. supra*, p. 107, figs. 97-98 (larva).—Evans, 1959a, *loc. cit. supra*, p. 165, fig. 61 (larva).

**stictochilos** Pate. Md. Nests in green hibiscus stems.

Biology: Krombein, 1964. Biol. Soc. Wash. Proc. 77: 90.

## CROSSOCERUS subgenus NOTHOCRABRO Pate, p. 1023

**nitidiventris** (Fox). Prey: *Nephrotoma virescens* Lw.

## CROSSOCERUS subgenus STICTOPTILA Pate, p. 1023

**confertus** (Fox). N. Mex.

**ECTEMNIUS subgenus METACRABRO Ashmead, p. 1025**

**cephalotes** (Olivier). Replaces *quadricinctus* Auctt., nec Fabricius. Delete orig. ref. for *quadricinctus*.

Taxonomy: van der Vecht, 1961. Zool. Verhandl. Rijksmus. Natuurlijke Hist. Leiden, No. 48, pp. 70-71.

**ECTEMNIUS subgenus LOPHOCRABRO Rohwer, p. 1025**

**singularis** (Smith). Md.

**ECTEMNIUS subgenus HYPOCRABRO Ashmead, pp. 1025-1027**

**continuus** (Fabricius). Nests in rotten pear limb. Prey: Muscoid flies.

Biology: Krombein, 1964. Brooklyn Ent. Soc. Bul. 58: 120.

Taxonomy: Evans, 1964, *loc. cit. supra*, p. 295, fig. 114 (larva).

**dives** (Lepeletier and Brullé). Md.

**paucimaculatus** (Packard). Mo. Nests in green hibiscus stems along river banks. Prey: Principally Ephydriidae and Agromyzidae.

Biology: Krombein, 1964. Biol. Soc. Wash. Proc. 77: 73-88, figs. 1-11.

Taxonomy: Evans, 1964, *loc. cit. supra*, pp. 294-295, fig. 113 (larva).

**spiniferus** (Fox). Prey: Principally *Ogcodes eugonatus* Lw.

Biology: Bechtel and Schlinger, 1957. Ent. News 68: 225-232.

**stirpicola** (Packard). Nests in borings in sumac pith. Prey: Small Diptera, principally acalyptrate muscoids.

Taxonomy: Evans, 1957a, *loc. cit. supra*, p. 109, figs. 85-90 (larva).—

Evans, 1959a, *loc. cit. supra*, p. 165 (larva).

Biology: Krombein, 1960. Ent. News 71: 63-68.

**ECTEMNIUS subgenus APOCTEMNIUS Leclercq, Sup. 1, p. 199**

**texanus** ais Pate. Nests in rose canes. Prey: Acalyptrate Diptera.

Biology: Morse and Kerr, 1957. Fla. Ent. 40: 77-80, 1 fig.

**ECTEMNIUS subgenus ECTEMNIUS Dahlbom, pp. 1027-1028**

**atriceps** (Cresson). Oreg.

Taxonomy: Evans, 1957a, *loc. cit. supra*, p. 109, figs. 91-94 (larva).

**LESTICA subgenus SOLENIUS Lepeletier and Brullé, pp. 1028-1029**

**cinctella** (Fox). Oreg.

**Genus OXYBELUS Latreille, pp. 1030-1034**

Taxonomy: Bohart and Schlinger, 1957. Calif. Ins. Survey Bul. 4: 103-142, 23 maps, 93 figs. (descr. of Calif. spp. and key to N. Amer. spp.).

Change endings to masculine gender (*teste* Internatl. Code Zool. Nomencl., Art. 30 (a) (3), 1961).

**bipunctatus** Olivier. Pa., Md.

Taxonomy: Evans, 1957a, *loc. cit. supra*, p. 111, figs. 107-115 (larva).

**cressonii** Robertson. Pa., Md.

**emarginatus** Say. Prey: *Anarete buscki* (Felt), *Atherigona orientalis* Schin., *Gymnopternus* sp., *Chironomus* sp., *Chaoborus punctipennis* Say.

Biology: Krombein and Kurczewski, 1963. Biol. Soc. Wash. Proc. 76: 150-151.—Krombein, 1964. Brooklyn Ent. Soc. Bul. 58: 120.—

Krombein, 1964. Amer. Mus. Novitates 2201: 24-26.

**sericeus sericeus** Robertson. Prey: *Ephydra riparia* Fall.

Biology: Bohart and Marsh, 1960. Pan-Pacific Ent. 36: 115-118.

Taxonomy: Evans, 1957a, *loc. cit. supra*, p. 112, figs. 105-106 (larva).

**uniglumis quadrinotatus** Say.

## Superfamily APOIDEA

**Taxonomy:** Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 1-538, 134 figs., 16 tables (manual of spp. of eastern U. S. in Colletidae, Andrenidae, Halictidae and Melittidae.—Mitchell, 1962. N. C. Agr. Expt. Sta. Bull. 152: 1-557, 134 figs., 18 tables (Part II of manual of eastern bees, containing Megachilidae, Anthophoridae, Xylocopidae, and Apidae).

**Ecology:** Linsley, 1958. Hilgardia 27: 543-599 (solitary bees).

**Morphology:** Wille, 1959. Ent. Soc. Amer. Ann. 51: 538-546, 24 figs. (dorsal vessel).

**Evolution:** Linsley, 1961. XI Internatl. Kongr. Ent. Wien 1960, Verhandl. 1: 593-596 (role of flower specificity).

**Biology:** Linsley, MacSwain, and Raven, 1963. Univ. Calif. Pubs. Ent. 33: 1-58 (comparative behavior of bees and Onagraceae).

## Family COLLETIDAE

## Subfamily COLLETINAE

## Tribe CAUPOLICANINI

Genus CAUPOLICANA Spinola, p. 1044

**yarrowi** (Cresson).

**Biology:** Linsley, 1962. Ent. Soc. Amer. Ann. 55: 158-159.

Nomen Nudum in *Caupolicana* Spinola

\**Megacilissa monticola* Ashmead in Cockerell, 1889. Colo. Biol. Assn., 10th Rept., [p. 2] (probably published originally in Custer County Courant newspaper).

Genus PTILOGLOSSA Smith, p. 1044

**arizonensis** Timberlake. Visiting flowers of *Solanum elaeagnifolium* and a species of Liliaceae.

**Biology:** Linsley, 1962. Pan-Pacific Ent. 38: 75-82.

## \*Tribe PARACOLLETINI

Place after *Ptiloglossa* Smith, p. 1044.

\*Genus EULONCHOPRIA Brèthes

*Eulonchopria* Brèthes, 1909. Mus. Nac. Buenos Aires An. 19: 247.

Type: *Eulonchopria psauenythioides* Brèthes. By monotypy.

\**punctatissima* Michener. Southern Ariz.; Mexico (Guerrero). On flowers of *Acacia*, and collecting pollen of *Baccharis* (?).

*Eulonchopria punctatissima* Michener, 1963. Ent. Soc. Amer. Ann. 56: 847, figs. 1, 2, 7, 8, 9. ♀, ♂.

## Tribe COLLETINI

Genus COLLETES Latreille, pp. 1044-1049

\**stepheni* Timberlake. Visiting flowers of *Cercidium*, *Geraea*, and *Larrea*.

*Colletes stepheni* Timberlake, 1958. Pan-Pacific Ent. 34: 143. ♂, ♀.

**Biology:** Hurd and Powell, 1958. Pan-Pacific Ent. 34: 147-153, 1 fig.

## Subfamily HYLAEINAE

Genus HYLAEUS Fabricius, pp. 1049-1052

**affinis** (Smith). Eastern U. S. and Canada west to Utah and Alta., south to Ga. and Miss. Visits many flowers. (*Prosopis*)



- Hylaeus ziziae* (Robertson) (syn. by Mitchell, 1960, *loc. cit. supra*, p. 63).  
*Hylaeus albertensis* Cockerell, n. syn. (*teste* R. R. Snelling, personal communication).  
*Hylaeus dunningi* (Cockerell), n. syn. (*teste* R. R. Snelling, personal communication).  
*albertensis* Cockerell. Syn. of *affinis* (Smith).  
 \**aztecus* (Cresson). Ariz.; Mexico (Baja Calif., Veracruz).  
*Prosopis azteca* Cresson, 1869. Boston Soc. Nat. Hist. Proc. 12: 272. ♀.  
*binghami* (Lovell). Syn. of *modestus modestus* Say.  
*calvus* (Metz). Oreg. and Calif., east to Nev. and Ariz.; Mexico (Baja Calif.). (*Paraprosopis*)  
*coloradensis* (Cockerell). N. Mex. and Wyo. west to Calif. and B. C. (*Paraprosopis*)  
*confluens* (Smith). N. J. to Fla. Visits many flowers. (*Prosopis*)  
*cookii* (Metz). Colo., N. Mex., Nev., Calif. Change ♂ ♀ in orig. cit. to ♂ (♀ misdet.). (*Paraprosopis*)  
*cressoni cressoni* (Cockerell). Visits a great variety of flowers. (*Hylaeus*)  
*Hylaeus cressoni pasadenae* (Cockerell), n. syn. (*teste* R. R. Snelling, personal communication).  
*cressoni mesillae* (Cockerell), new status. (*Hylaeus*)  
*Hylaeus mesillae* (Cockerell). Reduced to subsp. rank (*teste* R. R. Snelling, personal communication).  
*Hylaeus magniclavus* (Swenk and Cockerell), n. syn. (*teste* R. R. Snelling, personal communication).  
*cressoni pasadenae* (Cockerell). Syn. of *cressoni cressoni* (Cockerell).  
*divergens* (Cockerell). Syn. of *wootoni* (Cockerell).  
*dunningi* (Cockerell). Syn. of *affinis* (Smith).  
*ellipticus* (Kirby). Widespread in North America. Visits a number of flowers. (*Hylaeus*)  
*episcopalis* (Cockerell). A subsp. of *rugulosus* (Cockerell). N. B., *coquillettii* (Cockerell) is removed from syn. of *episcopalis* and assigned as a valid subsp. of *rugulosus*.  
*flammipes* (Robertson). Fla. (Citrus Co.). (*Prosopis*)  
*floridanus* (Robertson). Minn., Mich., Ill., Ky., N. C., Ga., Fla. On flowers of *Erigeron*, *Ilex*, *Polygonella*, *Pyracantha*, *Aster*, *Solidago*, *Cornus* and *Eulophus*. (*Paraprosopis*)..  
*Hylaeus modestus modestus* Say, in part. *Prosopis floridanus* is a valid sp. and *eulophi* Robertson is a syn. of it (*teste* Mitchell, 1960, *loc. cit. supra*, p. 77).  
 \**formosus* Krombein. Fla. (Key Largo, Stock Is.); West Indies (Bahamas). On flowers of *Metopium toxiferum*.  
*Hylaeus formosus* Krombein, 1953. Amer. Mus. Novitates 1633, p. 19. ♀.  
 \**Hylaeus metopii* Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 80. ♀. N. syn. (based on comparison of type material by K. V. Krombein).  
*georgicus* (Cockerell). N. Y., N. C. On flowers of *Pyracantha* and *Crataegus*. (*Paraprosopis*)  
*giffardiellus* Cockerell. A subsp. of *rugulosus* (Cockerell).  
*graenicheri* Mitchell. On flowers of *Flaveria* and *Metopium*.  
*grossicornis* (Swenk and Cockerell). Tex. east to N. C. and north to Minn., Wis., Mich. Visits flowers of *Crataegus*, *Daucus* and *Pyracantha*. (*Hylaeus*)  
*illinoisensis* (Robertson). Ill. and W. Va. to N. Y., Mass., Maine. Visits many flowers. (*Prosopis*)

- magniclavis* (Swenk and Cockerell). Syn. of *cressoni mesillae* (Cockerell).  
*mesillae* (Cockerell). A subsp. of *cressoni* (Cockerell).  
*\*metopii* Mitchell. Syn. of *formosus* Krombein.
- modestus modestus* Say. Delete *floridanus* (Robertson), a valid sp., from synonymy, and its synonym *eulophi* (Robertson). Visits many flowers. (*Prosopis*)  
*Hylaeus binghami* (Lovell) (syn. by Mitchell, 1960, *loc. cit. supra*, p. 66).  
*nelumbonis* (Robertson). S. C., Ga., Fla. Visits flowers of *Castalia* and *Nelumbo*. (*Prosopis*)
- nevadensis* (Cockerell). Calif., Nev., Oreg., Wash., Idaho, B. C. (*Paraprosopis*)  
*Hylaeus oregonensis* Bridwell, n. syn. (*teste* R. R. Snelling, personal communication).
- oregonensis* Bridwell. Syn. of *nevadensis* (Cockerell).
- ornatus* Mitchell. N. C. to Fla. On flowers of *Cephalanthus*, *Hypericum*, *Melilotus* and *Parthenocissus*. (*Prosopis*)
- potens* (Metz). Syn. of *sparsus* (Cresson).
- repolitus* Cockerell and Sumner. Probably a syn. of *cressoni cressoni* (Cockerell). Change (? *Paraprosopis*) to (*Hylaeus*)
- rudbeckiae* (Cockerell and Casad). Minn., Wis., Ont., Conn., N. J. (?), Ala. (?). (*Hylaeus*)
- rugulosus coquillettii* (Cockerell), new status. In desert areas, western Tex., Nev. and Idaho to eastern Oreg. and Calif.; Mexico (Baja California, Sonora). (*Prosopis*)  
*Hylaeus episcopalís* (Cockerell) of Catalog, in part. *H. coquillettii* (Cockerell) removed from syn. and placed as valid subsp. of *rugulosus* (*teste* R. R. Snelling, personal communication).
- rugulosus episcopalís* (Cockerell), new status. Transition and Sonoran faunas, N. Mex., Colo. and Alta. west to Pacific coast. (*Prosopis*)  
*Hylaeus episcopalís* (Cockerell) of Catalog, in part. *H. episcopalís* reduced to subsp. rank (*teste* R. R. Snelling, personal communication), but *coquillettii* removed from syn. and made a valid subsp. of *rugulosus*.
- rugulosus giffardiellus* Cockerell, new status. Central Calif. (Sacramento and San Joaquin Valleys). (*Prosopis*)  
*Hylaeus giffardiellus* Cockerell, reduced to subsp. rank (*teste* R. R. Snelling, personal communication).
- rugulosus rugulosus* (Cockerell), new status. Colo., Mont., Alta., west to Pacific coast, north to Alaska. (*Prosopis*)  
*Hylaeus rugulosus* (Cockerell), reduced to subsp. rank (*teste* R. R. Snelling, personal communication).  
*Hylaeus universitatis* (Cockerell), n. syn. (*teste* R. R. Snelling, personal communication).
- saniculae* (Robertson). Mass., Ont., Minn. south to Ga. and Tenn. Visits a number of flowers. (*Hylaeus*)
- schwarzii* (Cockerell). Mass. to Fla. Visits flowers of *Hydrocotyle*, *Medicago*, *Melilotus*, *Sagittaria* and *Salix*. (*Prosopis*)
- sparsus* (Cresson). Que., Mich., Ill., N. Y., Pa., N. C., Tex. On flowers of *Eulophus*, *Osmorrhiza* and *Thaspium*. (*Metziella*)  
*Hylaeus potens* (Metz), n. syn. (*teste* R. R. Snelling, personal communication).
- stevensi* (Crawford). Que. south to Ga., west to Idaho, Calif. On flowers of *Vigna sinensis*. (*Hylaeus*)
- subtristis* (Swenk and Cockerell). Syn. of *verticalis* (Cresson).

- teleporus** (Lovell). Ont., N. J., Va., N. C., Ind., Mich. On flowers of *Rubus* and *Salvia*. (*Hylaeus*)
- \***transvittatus** (Cockerell). Southern Ariz. (mts.) to Mexico (D. F.). (*Prosopis*)  
*Prosopis transvittata* Cockerell, 1917. Ann. Mag. Nat. Hist. (8) 20: 437.  
 ♀, ♂.
- universitatis** (Cockerell). Syn. of **rugulosus rugulosus** (Cockerell).
- verticalis** (Cresson), new status. Northeastern U. S. and southeastern Canada. On flowers of *Apocynum* and *Geranium*. (*Hylaeus*)  
*Hylaeus verticallis* (!) Cresson (occasionally misspelled in Mitchell, 1960, *loc. cit. supra*, pp. 60, 61, 76, 82, 83).  
*Hylaeus verticalis verticalis* (Cresson), raised to sp. rank (*teste* R. R. Snelling, personal communication).  
*Hylaeus verticalis tridentulus* (Cockerell), n. syn. (*teste* R. R. Snelling, personal communication).  
*Hylaeus subtristis* (Swenk and Cockerell), n. syn. (*teste* R. R. Snelling, personal communication).
- verticalis tridentulus** (Cockerell). Syn. of **verticalis** (Cresson).
- wootoni** (Cockerell). Nebr. and Wyo., west to B. C. and Calif., south to Mexico (Chihuahua). (*Paraprosopis*)  
*Hylaeus divergens* (Cockerell), n. syn. (*teste* R. R. Snelling, personal communication).
- ziziae** (Robertson). Syn. of **affinis** (Smith).

## Family ANDRENIDAE

Genus *ANDRENA* Fabricius, pp. 1053–1086

- ablegata** (Cockerell). (*Diandrena*)  
 Taxonomy: Linsley and MacSwain, 1961. Pan-Pacific Ent. 37: 32–33.
- accepta** Viereck. On flowers of *Aster*, *Bidens*, *Coreopsis*, *Helianthus* and *Silphium*. (*Pterandrena*)
- \***acra** Mitchell. Ont., Ohio, Mich., Wis., Minn. On flowers of *Crataegus* and *Spiraea*. (*Bythandrena*)  
*Andrena (Bythandrena) acra* Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 111, figs. 18, 19, 21. ♂.
- albisigna** Viereck. N. H., Conn., N. Y., Tenn. (*Leucandrena*)
- albofoveata** (Graenicher). Syn. of **imitatrix** Cresson.
- algida** Smith. Hudson's Bay and N. S. south to Minn., Mich., N. Y. and New England States. Visiting flowers of *Fragaria*. (*Thysandrena*)  
*Andrena (Thysandrena) fuscisignata* Viereck (syn. by Mitchell, 1960, *loc. cit. supra*, p. 218).
- aliena** Smith. Delete from Catalog; the type is an Australian species of *Paracolletes* in the broad sense (*teste* C. D. Michener, who has examined the type).
- alleghaniensis** Viereck. Minn. to N. H., south to N. C. On flowers of *Viburnum*. (*Trachandrena*)  
 Taxonomy: Knerer and Atwood, 1963. Canad. Ent. 95: 583, figs. 1, 3 (♂).
- \***anatolis anatolis** Linsley and MacSwain. Calif. (southern). Visiting flowers of *Calandrinia*, *Ceanothus*, *Cryptantha*, and *Oenothera*. (*Dian-drena*)  
*Andrena (Diandrena) anatolis* Linsley and MacSwain, 1961. Pan-Pacific Ent. 37: 36. ♀, ♂.
- \***anatolis matutina** Linsley and MacSwain. Calif. (Tulare, Kern, and Merced Counties). Visiting flowers of *Calandrinia* and *Oenothera*. (*Dian-drena*)

- Andrena (Diandrena) anatis matutina* Linsley and MacSwain, 1961. Pan-Pacific Ent. 37: 38. ♀, ♂.
- andrenoides** (Cresson). Southern Canada and northern U. S., in the East, south to Ga. Visiting a number of flowers. (*Parandrena*)
- angustella angustella** Cockerell, changed status.  
*Andrena angustella* Cockerell of Catalog.
- \***angustella quercina** Cockerell. Calif. (Live Oak Canyon, Redlands). On flowers of *Ceanothus*.  
*Andrena angustella quercina* Cockerell, 1939. Ann. and Mag. Nat. Hist. (11) 3: 183. ♂.
- anograe anograe** Cockerell, changed status. (*Onagrاندrena*)  
*Andrena (Onagrاندrena) anograe* Cockerell. Reduced to subsp. rank (teste Linsley and MacSwain, 1961. Pan-Pacific Ent. 37: 126).
- \***anograe knowltoni** Linsley and MacSwain. Utah. Visiting flowers of *Stanleya* and *Oenothera*. (*Onagrاندrena*)  
*Andrena (Onagrاندrena) anograe knowltoni* Linsley and MacSwain, 1961. Pan-Pacific Ent. 37: 126. ♀.
- \***apasta** Linsley and MacSwain. Calif. (southern). Visiting flowers of *Oenothera*. (*Diandrena*)  
*Andrena (Diandrena) apasta* Linsley and MacSwain, 1961. Pan-Pacific Ent. 37: 34. ♀.
- arabis** Robertson. Ill. and Mich. to Conn., south to N. C. Visits flowers of *Arabis*, *Brassica*, *Capsella*, *Cardamine*, *Claytonia*, *Dentaria*, *Prunus* and *Stellaria*. (*Scaphandrena*)
- \***arenakensis** Mitchell. Mich. (Arenak Co.). (*Trachandrena*)  
*Andrena (Trachandrena) arenakensis* Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 177, fig. 35. ♀.
- asteris** Robertson. Minn. to New England States, south to Miss. and Ga. On flowers of *Aster*, *Eupatorium*, *Polygonum*, and *Solidago*. (*Pterandrena*)
- \***asteroides** Mitchell. N. J., N. C., Miss. On flowers of *Aster*, *Chrysopsis*, and *Haplopappus*. (*Pterandrena*)  
*Andrena (Pterandrena) asteroides* Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 140, figs. 24, 25. ♀, ♂.
- \***atlantica** Mitchell. N. Y. to Fla., Mich., Tex. Visiting a number of flowers. (*Trachandrena*)  
*Andrena (Trachandrena) atlantica* Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 178, figs. 35-37. ♀, ♂.
- australifornica** Viereck. Syn. of *cyanosoma* (Cockerell).
- banksi** Malloch. N. J. to Fla., west to Tex. Taken on flowers of *Prunus angustifolia*.
- barbarica** Viereck. Syn. of *platyparia* Robertson.
- bernardina** Linsley, changed status. (*Onagrاندrena*)  
*Andrena (Onagrاندrena) grundeli bernardina* Linsley of Sup. 1. Restored to sp. rank (teste Linsley and MacSwain, 1961. Pan-Pacific Ent. 37: 128).
- beutenmuelleri** Viereck. N. C., Ohio, Mich., Minn. On flowers of *Prunus angustifolia*. (*Gymnandrena*)
- \***bifurcata** Mitchell. Mich., Ohio. (*Leucandrena*)  
*Andrena (Leucandrena) bifurcata* Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 211, figs. 40-42. ♂.
- bisalicis** Viereck. N. Dak. to New England states, south to Ga. Visiting flowers of *Amelanchier*, *Aronia*, *Brassica*, *Crataegus*, *Ilex*, *Prunus* and *Salix*. (*Thysandrena*)
- \***bisignata** Mitchell. Mass. to N. C., west to Minn. On flowers of *Erythronium*, *Ilex*, *Prunus*, *Pyrus*, *Salix* and *Viburnum*. (*Gymnandrena*)

- Andrena (Gymnandrena) bisignata* Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 122, figs. 20, 22, 23. ♀, ♂.
- \**boronensis* Linsley and MacSwain. Calif. (Mojave Desert). On flowers of *Coreopsis*, *Layia* and *Oenothera*. (*Onagrandrena*)
- Andrena (Onagrandrena) boronensis* Linsley and MacSwain, 1962. Pan-Pacific Ent. 38: 49. ♀, ♂.
- braccata* Viereck. New England States to Md., west to Colo. On flowers of *Solidago*. (*Pterandrena*)
- bradleyi* Viereck. Colo. to N. S., south to Ga. Taken on flowers of *Prunus*, *Pyrus*, *Rhododendron*, *Ribes*, and *Vaccinium*. (*Conandrena*)
- \**brassicae* Mitchell. N. Y., Va. On flowers of *Brassica*. (*Pterandrena*)
- Andrena (Pterandrena) brassicae* Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 142, figs. 24, 25, 28. ♂.
- carlini carlini* Cockerell, changed status. N. S. to Ga., west to Minn. and Mo. Visiting many flowers. (*Bythandrena*)
- Andrena carlini* Cockerell. Reduced to subsp. rank (*teste* Mitchell, 1960, *loc. cit. supra*, p. 111, figs. 17, 19).
- \**carlini neorhodura* Mitchell. Mass., Pa., Mich. (*Bythandrena*)
- Andrena (Bythandrena) carlini neorhodura* Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 113. ♂.
- carliniformis* Viereck and Cockerell. B. C. (*Gymnandrena*)
- carolina* Viereck. Minn. to N. S., south to Tenn. and Ga. Visiting flowers of *Azalea*, *Claytonia*, *Dentaria*, *Ledum*, *Pyrus*, *Rhodora*, and *Vaccinium*. (*Conandrena*)
- \**carolinensis* Mitchell. N. C. (Raleigh). On flowers of *Vicia caroliniana*. (*Gymnandrena*)
- Andrena (Gymnandrena) carolinensis* Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 123, fig. 20. ♀.
- ceanothi* Viereck. Minn. to N. S., south to Ga. Visiting a number of flowers. (*Trachandrena*)
- \**cerebrata* Mitchell. N. C. (Waynesville). Taken on flowers of *Malus*.
- Andrena cerebrata* Mitchell, 1960. N. C. Dept. Agr. Tech. Bull. 141: 255, figs. 51, 56, 57. ♂.
- chalybioides* (Viereck). (*Diandrena*)
- Andrena (Parandrena) perchalybea* Viereck (syn. by Linsley and MacSwain, 1961. Pan-Pacific Ent. 37: 31).
- \**chippewaensis* Mitchell. Mich., N. B. (? *Leucandrena*)
- Andrena (? Leucandrena) chippewaensis* Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 212, fig. 43. ♀.
- Taxonomy: Knerer and Atwood, 1963. Canad. Ent. 95: 584, figs. 2, 4 (♂).
- \**chylismiae* Linsley and MacSwain. Nev. Visiting flowers of *Oenothera* principally, but also of *Sisymbrium*, *Stanleya* and *Haplopappus*. (*Onagrandrena*)
- Andrena (Onagrandrena) chylismiae* Linsley and MacSwain, 1961. Pan-Pacific Ent. 37: 121. ♀, ♂.
- Biology: Linsley, MacSwain and Raven, 1963. Univ. Calif. Pubs. Ent. 33: 37-38.
- commoda* Smith. N. Dak. to Vt. south to Ga. On flowers of *Cornus*. (*Gymnandrena*)
- \**compacta* Mitchell. Mich. (Roscommon Co.). (*Trachandrena*)
- Andrena (Trachandrena) compacta* Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 181. ♂.
- compactiscopa* Viereck. B. C.

**complexa** (Viereck). Collects pollen of *Ranunculus*. (*Ptilandrena*)

Biology: Linsley and MacSwain, 1959. Calif. Univ. Pubs. Ent. 16: 5-13, text figs. 1-5, plate figs. 1b, 3c and d.

**confederata** Viereck. Ohio to N. J., south to Fla. Visiting a number of flowers. (*Gynandrena*)

\***convallaria convallaria** Linsley and MacSwain. Calif. (San Joaquin Valley and western Mojave Desert). Collects pollen of *Oenothera campestris*. (*Onagrاندrena*)

*Andrena (Onagrاندrena) convallaria convallaria* Linsley and MacSwain, 1963. Pan-Pacific Ent. 39: 193. ♀, ♂.

\***convallaria subhyalina** Linsley and MacSwain. Calif. (Kern Co.). Collects pollen of *Oenothera campestris*. (*Onagrاندrena*)

*Andrena (Onagrاندrena) convallaria subhyalina* Linsley and MacSwain, 1963. Pan-Pacific Ent. 39: 193. ♀, ♂.

**crataegi** Robertson. Transcont. in southern Canada and northern U. S., south to Ga., Colo. and Oreg. Visits a number of flowers. (*Schizandrena*)

*Andrena (Schizandrena) subcommoda* Cockerell (syn. by Mitchell, 1960, loc. cit. supra, p. 206).

\***crenata** Mitchell. Mich. (*Thysandrena*)

*Andrena (Thysandrena) crenata* Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 221, figs. 44, 51. ♂.

**cressonii cressonii** Robertson, changed status. U. S. and southern Canada. Visits a large number of flowers. (*Opandrena*)

*Andrena cressonii* Robertson. Reduced to subsp. rank (teste Lanham, 1949. Pan-Pacific Ent. 25: 147).

\***cressonii infasciata** Lanham. Calif., Wash. On flowers of *Brassica*, *Pyra-cantha*, *Ranunculus* and *Salix*. (*Opandrena*)

*Andrena cressonii infasciata* Lanham, 1949. Pan-Pacific Ent. 25: 147. ♀, ♂.

\***cressonii ivanensis** Mitchell. Va., N. C. Taken on flowers of *Brassica* and *Padus*. (*Opandrena*)

*Andrena (Opandrena) cressonii ivanensis* Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 249, fig. 52. ♂.

\***cressonii tallahassensis** Mitchell, emended. Fla., N. C. (*Opandrena*)

*Andrena (Opandrena) cressonii tallahasensis (!)* Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 249, figs. 50, 53. ♂.

\***critica** Mitchell. N. Y. (Catskill Mts.). (*Bythandrena*)

*Andrena (Bythandrena) critica* Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 113. ♀.

**cuneilabris** Viereck. Collects pollen of *Ranunculus*. (*Diandrena*)

Biology: Linsley and MacSwain, 1959. Calif. Univ. Pubs. Ent. 16: 17-18, pl. 4.

**cyanosoma** (Cockerell). Visits flowers of *Oenothera*. (*Diandrena*)

*Andrena (Diandrena) austrocalifornica* Viereck (syn. by Linsley and MacSwain, 1961. Pan-Pacific Ent. 37: 36).

**davisi** Viereck. Syn. of *violae* Robertson.

\***dimorpha** Mitchell. N. J., N. C., Fla. (*Pterandrena*)

*Andrena (Pterandrena) dimorpha* Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 143, figs. 24-26, 28. ♀, ♂.

**distans** Provancher. Minn. to New England, south to N. C. On flowers of *Geranium*, *Heracleum* and *Polymonium*. (*Ptilandrena*)

*Andrena (Ptilandrena) geraniimaculati* Viereck (syn. by Mitchell, 1960, loc. cit. supra, p. 154).

\***dreisbachi** Mitchell. Mich. (*Gonandrena*)

*Andrena (Gonandrena) dreisbachi* Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 230. ♀.

Taxonomy: Knerer and Atwood, 1963, *Canad. Ent.* 95: 586, figs. 6, 8 (♂).

**dunningi** Cockerell. Minn. to Que., south to N. C. Visiting a number of flowers. (*Bythandrena*)

\***duplicata** Mitchell. N. C., Ohio. (*Pterandrena*)

*Andrena (Pterandrena) duplicata* Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 144, figs. 24-26, 28. ♀, ♂.

**durangoensis** Viereck and Cockerell. Colo. to N. S., south to W. Va. Visiting flowers of *Ilex* and *Rubus*. (*Conandrena*)

*Andrena media* Viereck (syn. by Mitchell, 1960, *loc. cit. supra*, p. 229).

\***eothina** Linsley and MacSwain. Calif. (Kern Co.). Visiting flowers of *Oenothera*. (*Diandrena*)

*Andrena (Diandrena) eothina* Linsley and MacSwain, 1961. Pan-Pacific Ent. 37: 39. ♀, ♂.

**erigeniae** Robertson. Minn. to N. Y., south to Ga. On flowers of *Claytonia* and *Erigenia*. (*Ptilandrena*)

**erythrogaster erythrogaster** (Ashmead). Visits a number of flowers. (*Bythandrena*)

**erythrogaster subaustralis** Cockerell. On flowers of *Aronia*, *Brassica*, *Crataegus*, *Prunus*, *Salix* and *Stellaria*. (*Bythandrena*)

**erythronii** Robertson. Ill. and Mich. to Que., Maine and Mass. (*Leucandrena*)

\***evoluta** Linsley and MacSwain. Calif. (Lassen Co.), Nev. (?). Visiting flowers of *Agoseris*, *Oenothera* and *Taraxacum*. (*Diandrena*)

*Andrena (Diandrena) evoluta* Linsley and MacSwain, 1961. Pan-Pacific Ent. 37: 33. ♀.

**fenningeri** Viereck. Mich. to N. Y., south to Ga. On flowers of *Acer*, *Ame-lanchier*, *Aronia*, *Malus*, *Prunus*, *Salix* and *Taraxacum*. (*Trachandrena*)

*Andrena (Trachandrena) indianensis* Cockerell (syn. by Mitchell, 1960, *loc. cit. supra*, p. 182).

**forbesii** Robertson. Colo. and Nebr. east to N. S., south to Ga. Visits a number of flowers. (*Trachandrena*)

**foxi** Cockerell. Transfer from (*Onagrandrena*) to (*Diandrena*).

Taxonomy: Linsley and MacSwain, 1961. Pan-Pacific Ent. 37: 130.

**fragilis** Smith. Eastern Canada and U. S. except Fla., west to Colo. and N. Mex. Visits a number of flowers. Remove *lineata* Provancher from syn. and transfer to syn. of *integra* Smith. Remove *platyparia* Robertson, a valid sp., from syn.

**frigida** Smith. On flowers of *Cornus*, *Prunus*, and *Salix*. (*Andrena*)

*Andrena hirticeps* Smith (syn. by Mitchell, 1960, *loc. cit. supra*, p. 105).

*Andrena hirtignatha* Linsley (n. name for *hirticeps* Smith).

**fulvipennis** Smith. N. J. to Fla. on coastal plain. On flowers of *Aster*, *Chrysopsis*, *Coreopsis* and *Haplopappus*. (*Pterandrena*)

\***furva** Linsley and MacSwain. Calif. On flowers of *Oenothera*. (*Onagrandrena*)

*Andrena (Onagrandrena) furva* Linsley and MacSwain, 1961. Pan-Pacific Ent. 37: 117. ♀.

**fuscisignata** Viereck. Syn. of *algida* Smith.

\***gabrielsoni** Mitchell. Maine, Conn., N. C., Mich. (*Bythandrena*)

*Andrena (Bythandrena) gabrielsoni* Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 115. ♀.

**gardineri** Cockerell. Colo. and Tex. to Va. and Ga. On flowers of *Pentstemon*, *Rubus* and *Senecio*. (*Pterandrena*)

- geranii** Robertson. Colo. and Minn. to New England states and Va. Visiting flowers of *Arabis*, *Blephilia*, *Geranium*, *Hydrophyllum*, *Osmorhiza*, and *Polemonium*. (***Thysandrena***)
- geraniimaculati** Viereck. Syn. of *distans* Provancher.
- grundeli bernardina** Linsley. Restored to sp. rank.
- grundeli grundeli** Linsley. Syn. of *ominigra omninigra* Viereck.
- helianthi** Robertson. Minn. to Conn., south to Ill. and Ind., west to Utah and N. Mex. On flowers of *Aster*, *Bidens* and *Helianthus*. (***Pterandrena***)
- heraclei** Robertson. Kans. to Ill., Va., N. C. Visiting flowers of *Crataegus*, *Cornus*, *Heracleum*, *Ptelea*, *Salix* and *Taenidia*. (***Trachandrena***)
- hilaris** Smith. Mich. and Ohio to eastern Canada and New England States, south to Ga. and Ala. Visiting a number of flowers. (***Gymnandrena***)
- hippotes** Robertson. Transcanadian and northern U. S., in East, south to Ga. Visiting a number of flowers. (***Trachandrena***)  
*Andrena miranda* Smith, in part (**hippotes** a valid sp., *teste* Mitchell, 1960, *loc. cit. supra*, p. 184).  
*Andrena perforatella* Cockerell (syn. by Mitchell, 1960, *loc. cit. supra*, p. 184).
- hirticineta** Provancher. Alta. to N. S., south to Ga. On flowers of *Aster*, *Epilobium* and *Solidago*. (***Cnemidandrena***)
- hirtignatha** Linsley. Syn. of *frigida* Smith.
- \***ilicis** Mitchell. Md. to Fla., Ohio. On flowers of *Batodendron*, *Castanea*, *Crataegus*, *Ilex* and *Prunus*. (***Trachandrena***)  
*Andrena (Trachandrena) ilicis* Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 186, fig. 35. ♀.
- illinoiensis** Robertson. Transcont. in southern Canada and northern U. S., south to S. C. On flowers of *Prunus*, *Salix*, *Taraxacum*, *Antennaria*, *Geranium*, *Stellaria* and *Zizia*. (***Micrandrena***)
- imitatrix** Cresson. Colo., Minn., Ont., and New England States, south to Tex. and Fla. Visits a number of flowers. (***Mimandrena***)  
*Andrena (Mimandrena) albofoveata* (Graenicher) (syn. by Mitchell, 1960, *loc. cit. supra*, p. 205).
- indianensis** Cockerell. Syn. of *fenningeri* Viereck.
- integra** Smith. Minn. to Que. and New England States, south to Ga. Visiting flowers of *Ceanothus* and *Cornus*. (***Gonandrena***)  
*Andrena lineata* Provancher not a syn. of *fragilis* Smith but of *integra* (*teste* Mitchell, 1960, *loc. cit. supra*, p. 232).
- kalmiae** Atwood. N. S. to N. C. On flowers of *Kalmia*, *Ledum* and *Vaccinium*. (***Trachandrena***)
- krigiana** Robertson. Ill. to Conn., south to Tex. and Ga. On flowers of *Krigia amplexicaulis*. (***Ptilandrena***)
- lata** Viereck. Minn. to N. S. south to Ga. Visiting flowers of *Brassica*, *Hydrangea*, *Potentilla*, *Prunus*, *Pyrus* and *Rubus*. (***Thysandrena***)  
*Andrena vulgaris* Viereck (syn. by Mitchell, 1960, *loc. cit. supra*, p. 223).
- lauracea** Robertson. Ill. On flowers of *Sassafras variifolium*. (***Pterandrena***)
- linsleyi** Timberlake. (***Onagrandrena***)  
 Biology: Linsley, MacSwain and Raven, 1963. Univ. Calif. Pubs. Ent. 33: 11-16.
- macoupinensis** Robertson. Ill., Mass., N. C. On flowers of *Prunus*, *Salix*, and *Vicia*. (***Andrena***)
- \***macswaini** Linsley. Calif. (San Joaquin valley). Visiting flowers of *Oenothera dentata*. (***Diandrena***)



*Andrena (Diandrena) macswaini* Linsley, 1960. Pan-Pacific Ent. 36: 97.  
♀, ♂.

Taxonomy: Linsley and MacSwain, 1961. Pan-Pacific Ent. 37: 36.

**mandibularis** Robertson. Minn. and Ont., east to N. S., south to Ga. On many flowers. (*Andrena*)

**mariae** Robertson. Colo. and Minn. to N. S., south to Ga. Visiting many flowers. (*Trachandrena*)

**media** Viereck. Syn. of *durangoensis* Viereck and Cockerell.

**melanochroa fragariana** Graenicher. Minn. to N. S., south to Ga. On flowers of *Fragaria*, *Potentilla* and *Rubus*. (*Micrandrena*)

\***mendica** Mitchell. Va., N. C., Tenn., Ohio. On flowers of *Aruncus* and *Ceanothus*. (*Trachandrena*)

*Andrena (Trachandrena) mendica* Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 189, figs. 35-37, 40. ♀, ♂.

**milwaukeeensis** Graenicher. Minn. to N. S., south to Ga. On flowers of *Aruncus*, *Cornus*, *Ilex*, *Pyrus*, *Rubus* and *Viburnum*. (*Andrena*)

**miranda** Smith. Transcont. in southern Canada and northern U. S., south to N. Mex. and Ga. Visiting flowers of *Ceanothus*, *Prunus*, *Rosa*, *Rubus* and *Zizia*. (*Trachandrena*)

*Andrena miranda* Smith, in part (delete *hippotes* Robertson, a valid sp., and its syn. *perforatella* Cockerell from syn. of *miranda*, *teste* Mitchell, 1960, *loc. cit. supra*, p. 190).

**miserabilis bipunctata** Cresson, changed status. Eastern Canada to Ga., west to Calif., Colo., and Tex. Visiting a number of flowers. (? *Micrandrena*)

*Andrena bipunctata* Cresson (made a subsp. by Mitchell, 1960, *loc. cit. supra*, p. 195. N. B., *miserabilis* Cresson and *scutellata* Dalla Torre removed from syn. and made separate subsp.).

*Andrena (Micrandrena) salicinellina* Viereck and Cockerell (syn. by Mitchell, 1960, *loc. cit. supra*, p. 159).

**miserabilis miserabilis** Cresson, changed status. N. C. to Tex. On flowers of *Amelanchier*, *Aronia*, *Crataegus*, and *Prunus*. (? *Micrandrena*)

*Andrena miserabilis* Cresson reduced to subsp. rank (*teste* Mitchell, 1960, *loc. cit. supra*, p. 160).

**miserabilis scutellata** Dalla Torre. Coastal belt of N. C. to Fla., Miss. On flowers of *Prunus angustifolia*. (? *Micrandrena*)

*Andrena scutellata* Dalla Torre (removed from syn. of *miserabilis* and raised to subsp. rank, *teste* Mitchell, 1960, *loc. cit. supra*, p. 160).

\***monroensis** Mitchell. Mich. (*Gonandrena*)

*Andrena (Gonandrena) monroensis* Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 233. ♀.

\***montensis** Mitchell. Vt. to N. C., Mich., Wis., Ohio. On flowers of *Hydrangea*, *Rhus* and *Zizia*. (*Trachandrena*)

*Andrena (Trachandrena) montensis* Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 191, fig. 35. ♀.

**morrisonella** Viereck. Minn. to New England States, south to Ga. Visiting flowers of *Crataegus*, *Gypsophila*, *Ilex*, *Malus*, *Prunus*, *Rubus*, and *Salix*. (*Trachandrena*)

**nasonii** Robertson. Eastern Canada and Minn., south to Ga. and Tex., Colo. Visits a number of flowers. (*Simandrena*)

**neonana** Viereck. Ind. and Ohio south to La. and Fla. On flowers of *Ilex* and *Malus*. (*Micrandrena*)

\***nevadae** Linsley and MacSwain. Nev. Visiting flowers of *Oenothera* for pollen, and of *Stanleya*. (*Onagrandrena*)

*Andrena (Onagrandrena) nevadae* Linsley and MacSwain, 1961. Pan-Pacific Ent. 37: 125. ♀.

- \***nida** Mitchell. Md. to N. C., Mich., Miss. Taken on flowers of *Amelanchier*, *Prunus* and *Salix*. (***Parandrena***)  
***Andrena (Parandrena) nida*** Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 240, fig. 49, 50, 52, 55. ♀, ♂.
- nigrae** Robertson. Ill., Minn. On flowers of *Salix* and *Antennaria*. (***Micrandrena***)
- nivalis** Smith. Que. to Ga., west to B. C., Oreg. and N. Mex. On flowers of *Hydrangea*, *Rhododendron*, *Rubus* and *Vagnera*. (***Gymnandrena***)  
***Andrena (Gymnandrena) semirufa*** Cockerell (syn. by Mitchell, 1960, *loc. cit. supra*, p. 128, figs. 22, 23).
- nivaloides** Graenicher. Syn. of ***novaeangliae*** Viereck.
- nothocalaidis** (Cockerell). Remove ***perchalybea*** Viereck from syn., and transfer to syn. of ***chalybioides***. (***Diandrena***)  
 Taxonomy: Linsley and MacSwain, 1961. Pan-Pacific Ent. 37: 33.
- novaeangliae** Viereck. Alta., Minn. and Ill. east to N. S. and N. Y. Visiting flowers of *Angelica*. (***Thysandrena***)  
***Andrena nivaloides*** Graenicher (syn. by Mitchell, 1960, *loc. cit. supra*, p. 224).
- nubecula** Smith. B. C. to eastern Canada, south to Ga. On flowers of *Aster*, *Euthamia* and *Solidago*. (***Cnemidandrena***)
- nuda** Robertson. Colo. to N. Y., south to Ga. Visiting a number of flowers. (***Trachandrena***)
- obscura** (Robertson). Ill. and Mich. to N. B., south to N. C. Visiting flowers of *Ceanothus* and *Pycnanthemum*. (***Trachandrena***)
- obscuripennis** Smith. N. J. (?), N. C., Ga., La. (?). On flowers of *Batodendron*, *Crataegus*, *Ilex* and *Padus*. (***Gymnandrena***)
- oenotherae** Timberlake. Calif. (Coastal Santa Barbara Co. east to Colorado Desert); Mexico (Baja California). Collects pollen of *Oenothera cheiranthifolia* *suffruticosa*. (***Onagrandrena***)  
 Taxonomy: Linsley and MacSwain, 1963. Pan-Pacific Ent. 39: 189-190.
- olivacea** Viereck. Visiting flowers of *Oenothera*, *Malacothrix* and *Coreopsis*. (***Diandrena***)  
 Taxonomy: Linsley and MacSwain, 1961. Pan-Pacific Ent. 37: 35.
- \***omninigra clarkiae** Linsley and MacSwain. Calif. (Monterey Co.). On flowers of *Clarkia*. (***Onagrandrena***)  
***Andrena (Onagrandrena) omninigra clarkiae*** Linsley and MacSwain, 1961. Pan-Pacific Ent. 37: 127. ♀, ♂.
- omninigra omninigra** Viereck, changed status. (***Onagrandrena***)  
***Andrena omninigra*** Viereck. Reduced to subsp. rank (*teste* Linsley and MacSwain, 1961. Pan-Pacific Ent. 37: 127).  
***Andrena grundeli grundeli*** Linsley. Syn. by Linsley and MacSwain, 1961, *loc. cit. supra*, p. 127.
- \***oraria actitis** Linsley and MacSwain. Calif. (San Francisco). Collects pollen of *Oenothera c. cheiranthifolia*. (***Onagrandrena***)  
***Andrena (Onagrandrena) oraria actitis*** Linsley and MacSwain, 1963. Pan-Pacific Ent. 39: 196. ♀, ♂.
- \***oraria oraria** Linsley and MacSwain. Calif. (Marin Co.). Collects pollen of *Oenothera c. cheiranthifolia* and *Oe. ovata*. (***Onagrandrena***)  
***Andrena (Onagrandrena) oraria oraria*** Linsley and MacSwain, 1963. Pan-Pacific Ent. 39: 196. ♀, ♂.
- \***osmioides benitonis** Lanham. Northern Calif. On flowers of *Cryptantha*. (***Scoliandrena***)  
***Andrena osmioides benitonis*** Lanham, 1949. Pan-Pacific Ent. 25: 148. ♀, ♂.
- osmioides osmioides** Cockerell, changed status. (***Scoliandrena***)

- Andrena osmioides* Cockerell. Reduced to subsp. rank (*teste* Lanham, 1949. Pan-Pacific Ent. 25: 149).
- paenerugosa* Viereck. Syn. of *rugosa* Robertson. Correct spelling of specific heading and in citation for *paenerugosa*.
- \**parakrigiana* Mitchell. Ga. (Butler). (*Ptilandrena*)  
*Andrena (Ptilandrena) parakrigiana* Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 157. ♂.
- parnassiae* Cockerell. Mich., Wis., Vt. (*Leucandrena*)
- peckhami* Cockerell. Minn. to Vt., south to N. C. Taken on flowers of *Baptisia* and *Solidago*. (*Gonandrena*)
- perplexa* Smith. Minn., Mich. and N. Y. south to Tex. and Ga. Visiting a number of flowers. (*Bythandrena*)
- persimulata* Viereck. N. S. to Alta. south to N. Y. and Minn. Visiting flowers of *Cornus* and *Viburnum*. (*Gonandrena*)
- personata* Robertson. Minn. to Conn., south to Ga. Visiting a number of flowers. (*Micrandrena*)
- \**phaceliae* Mitchell. Md., Va., Ill. Visiting flowers of *Alsine* and *Phacelia*. (*Thysandrena*)  
*Andrena (Thysandrena) phaceliae* Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 224, figs. 44, 45. ♀, ♂.
- phenax* Cockerell. Remove from (? *Onagrandrena*).  
 Taxonomy: Linsley and MacSwain, 1961. Pan-Pacific Ent. 37: 129.
- \**picta* Mitchell. N. Y. (Ithaca). (*Leucandrena*)  
*Andrena (Leucandrena) picta* Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 214. ♀.
- \**placata* Mitchell. Mass., Conn., Va., Mich., Minn. (*Pterandrena*)  
*Andrena (Pterandrena) placata* Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 148, figs. 24, 25. ♂.
- placida placida* Smith. Visiting flowers of *Acer*, *Amelanchier*, *Fragaria*, *Prunus*, *Pyrus*, *Taraxacum* and *Viburnum*. (*Leucandrena*)
- platyparia* Robertson. New England and Ont. south to N. C. and Tex. Visiting flowers of *Cornus* and *Viburnum*. (*Gonandrena*)  
*Andrena (Gonandrena) fragilis* Smith, in part, of Catalog. A. *platyparia* Robertson is a valid sp., not a syn. (*teste* Mitchell, 1960 *loc. cit. supra*, p. 236).  
*Andrena (Gonandrena) barbarica* Viereck (syn. by Mitchell, 1960, *loc. cit. supra*, p. 236).
- polemonii* Robertson. Ill., Mich. On flowers of *Geranium*, *Polemonium* and *Ranunculus*. (*Ptilandrena*)
- prima* Casad. Transfer from (*Onagrandrena*) to (*Melandrena*).  
 Taxonomy: Linsley and MacSwain, 1961. Pan-Pacific Ent. 37: 129.
- pruni* Robertson. Minn. and Ill. to Mass., south to Ga. Visiting a number of flowers. (*Bythandrena*)
- \**pseudobscura* Mitchell. Maine to N. C., Mich., Ind. Visiting a number of flowers. (*Trachandrena*)  
*Andrena (Trachandrena) pseudobscura* Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 193, fig. 36. ♂.
- \**pyracanthae* Mitchell. N. C. On flowers of *Crataegus*, *Pyracantha* and *Rubus*. (*Trachandrena*)  
*Andrena (Trachandrena) pyracanthae* Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 194, fig. 35. ♀.
- \**raveni* Linsley and MacSwain. Oreg., Calif., Nev., Utah. Visiting flowers of *Oenothera* for pollen, and of *Agoseris* and *Madia* for nectar. (*Onagrandrena*)

- Andrena (Onagrandra) raveni** Linsley and MacSwain, 1961. Pan-Pacific Ent. 37: 118. ♀, ♂.  
Biology: Linsley, MacSwain and Raven, 1963. Univ. Calif. Pubs. Ent. 33: 31-36.
- \***recta** Mitchell. Minn. to N. Y. south to N. C. (**Leucandrena**)  
**Andrena (Leucandrena) recta** Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 217, fig. 43. ♀.
- regularis** Malloch. B. C. to N. S., in eastern U. S. from Minn. to New England States, south to Ga. On flowers of *Aster*, *Brassica*, *Pyrus*, *Rubus*, *Syringa*, and *Vaccinium*. (**Bythandrena**)
- rehni** Viereck. New England to Ga. Visiting flowers of *Aruncus*, *Castanea*, *Ceanothus*, *Chrysanthemum*, and *Hydrangea*. (**Trachandrena**)
- robertsonii** Dalla Torre. Colo. and Minn. to N. S., south to Ark. and Ga. Visiting a number of flowers. (**Conandrena**)  
Change **robertsoni** to **robertsonii** in specific heading and in original citation.
- \***robervalensis** Mitchell. Que., Mich., Minn. On flowers of *Melilotus alba*. (?**Cnemidandrena**)  
**Andrena (? Cnemidandrena) robervalensis** Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 175. ♀.
- rozeni** Linsley and MacSwain. (**Onagrandra**)  
Biology: Linsley, MacSwain and Raven, 1963. Univ. Calif. Pubs. Ent. 33: 6-11, 36-37.
- \***rubi** Mitchell. N. C., Ga. Visiting flowers of *Aronia* and *Rubus*. (**Trachandrena**)  
**Andrena (Trachandrena) rubi** Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 198, fig. 35. ♀.
- rubrotincta** Linsley. (**Onagrandra**)  
Biology: Linsley, MacSwain and Raven, 1963. Univ. Calif. Pubs. Ent. 33: 16-18.
- rudbeckiae** Robertson. Ill. to Kans., south to Tex. and N. C. On flowers of *Coreopsis*, *Lepachys*, *Rudbeckia* and *Verbesina*. (**Pterandrena**)
- rufosignata** Cockerell. Minn. to N. B. and New England states. (? **Conandrena**)  
Taxonomy: Knerer and Atwood, 1963. Canad. Ent. 95: 585, figs. 5, 7 (♂).
- rugosa** Robertson. Minn. to N. S., south to Ga. Visiting a number of flowers. (**Trachandrena**)  
**Andrena (Trachandrena) paenerugosa** Viereck (syn. by Mitchell, 1960, *loc. cit. supra*, p. 198).
- salicinellina** Viereck and Cockerell. Syn. of **miserabilis bipunctata** Cresson.
- salictaria** Robertson. Colo. to N. S., south to Ga. and Miss. On a number of flowers. (**Micrandrena**)
- sayi** Robertson. Tenn. and N. C. north to Minn. and N. B. Visiting many flowers. (**Gymnandrena**)
- \***seavillensis** Mitchell. N. J. (South Seaville). (? **Leucandrena**)  
**Andrena (? Leucandrena) seavillensis** Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 217, fig. 43. ♀.
- semirufa** Cockerell. Syn. of **nivalis** Smith.
- \***sevierensis** Mitchell, emended. Tenn. (Sevier Co.). (? **Gymnandrena**)  
**Andrena (? Gymnandrena) seviensis** (!) Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 132, fig. 20. ♀.
- sigmundi** Cockerell. Sask. and Minn. to N. B., south to Ga. Visiting flowers of *Amelanchier*, *Prunus*, *Rubus* and *Salix*. (**Trachandrena**)  
**Andrena (Trachandrena) weedi** Viereck (syn. by Mitchell, 1960, *loc. cit. supra*, p. 202).

**simplex** Smith. "United States." (*Pterandrena*)

**solidaginis** Robertson. Nebr. and Minn. to New England States, south to Ga. On flowers of *Aster*, *Boltonia*, *Gnaphalium*, *Polygonum*, and *Solidago*. (*Pterandrena*)

**sperryi** (Cockerell). Calif. (Mojave Desert, San Joaquin Valley). Visiting flowers of *Oenothera*. (*Diandrena*)

**spiraeana** Robertson. Colo. and Minn. to New England States, south to Tenn. and S. C. Visiting flowers of *Aruncus*, *Azalea*, *Cryptotaenia*, *Heracleum*, *Hydrangea*, *Ptelea*, and *Rhus*. (*Trachandrena*)

**\*stagei** Linsley and MacSwain. Wyo. (Sweetwater Co.). On flowers of *Oenothera trichocalyx*. (*Onagrاندrena*)

*Andrena (Onagrاندrena) stagei* Linsley and MacSwain, 1962. Pan-Pacific Ent. 38: 52. ♀.

**stictigastrea** Viereck. Remove from (? *Onagrاندrena*).

Taxonomy: Linsley and MacSwain, 1961. Pan-Pacific Ent. 37: 129.

**suavis** Timberlake. Collects pollen of *Ranunculus*. (*Ptilandrena*)

Biology: Linsley and MacSwain, 1959. Calif. Univ. Pubs. Ent. 16: 13-16, plate 3, figs. a and b.

**\*subchalybea chlorosoma** Linsley and MacSwain. Calif. (Berkeley). Visiting flowers of *Ranunculus*. (*Diandrena*)

*Andrena (Diandrena) subchalybea chlorosoma* Linsley and MacSwain, 1961. Pan-Pacific Ent. 37: 32. ♀, ♂.

**subchalybea subchalybea** Viereck, changed status. (*Diandrena*)

*Andrena (Diandrena) subchalybea* Viereck. Reduced to subsp. rank (teste Linsley and MacSwain, 1961. Pan-Pacific Ent. 37: 32).

**subcommoda** Cockerell. Syn. of *crataegi* Robertson.

**\*thorpi** Linsley and MacSwain. Nev. (Humboldt Co.). On flowers of *Oenothera deltoidea*. (*Onagrاندrena*)

*Andrena (Onagrاندrena) thorpi* Linsley and MacSwain, 1962. Pan-Pacific Ent. 38: 51. ♀.

**tridens** Robertson. Ill. and Mich. to New England States, south to Tenn. and Ga. On flowers of *Azalea*, *Dentaria*, *Hepatica*, *Hydrangea*, *Rhododendron*, and *Rhus*. (*Andrena*)

**\*unica** Mitchell. N. Y. (Ithaca). (*Trachandrena*)

*Andrena (Trachandrena) unica* Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 203, fig. 36. ♂.

**\*uvulariae** Mitchell. Md. (Beltsville). On flowers of *Uvularia sessilifolia*. (? *Simandrena*)

*Andrena (? Simandrena) uvulariae* Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 245, fig. 54. ♀.

**\*verna** Mitchell. Md., N. C., Ind., Miss. Visiting flowers of *Prunus* and *Salix*. (? *Mimandrena*)

*Andrena (? Mimandrena) verna* Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 206, figs. 37, 38. ♂.

**\*vernalis** Mitchell. Conn., N. Y., Ohio (*Micrandrena*)

*Andrena (Micrandrena) vernalis* Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 168, fig. 29. ♀.

**\*vespertina** Linsley and MacSwain. Calif. (Kern Co.). Visiting flowers of *Oenothera*. (*Onagrاندrena*)

*Andrena (Onagrاندrena) vespertina* Linsley and MacSwain, 1961. Pan-Pacific Ent. 37: 123. ♀, ♂.

**viburnella** Graenicher. Ga. Visiting many flowers. (*Bythandrena*)

**vicina** Smith. Oreg. and B. C. to N.S., south to Ga. Visiting a number of flowers. (*Gymnandrena*)

- victima** Smith. Possibly a syn. of **vicina** (*teste* Mitchell, 1960, *loc. cit. supra*, p. 134). (? *Gymnandrena*)
- violae** Robertson. N. Y. to N. C., west to Ill. and Colo. Taken on flowers of *Cardamine*, *Ellisia*, *Oxalis*, *Potentilla*, and *Viola*. (*Iomelissa*)
- Andrena davisii** Viereck (syn. by Mitchell, 1960, *loc. cit. supra*, p. 252).
- \*virginiana** Mitchell. Va. (Barcroft). On flowers of *Ceanothus americanus*. (*Trachandrena*)
- Andrena (Trachandrena) virginiana** Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 203. ♀.
- \*votula** Mitchell. Wis., Mich. (*Trachandrena*)
- Andrena (Trachandrena) votula** Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 204. ♀.
- vulgaris** Viereck. Syn. of **lata** Viereck.
- weedi** Viereck. Syn. of **sigmundi** Cockerell.
- wellesleyana** Robertson. Minn. and Ill. to New England States. (*Parandrena*)
- wilkella** (Kirby). Holarctic; N. S. to Wis., south to Va. and Ohio. Visits a number of flowers. (*Taeniandrena*)
- yumorum** Viereck. (? *Onagrandrena*)
- Taxonomy: Linsley and MacSwain, 1961. Pan-Pacific Ent. 37: 128.
- ziziae** Robertson. Minn. to New England States, south to Ga. On flowers of *Aruncus*, *Chaerophyllum*, *Polytaenia*, *Sanicula*, *Taenidia*, *Thaspium*, and *Zizia*. (*Micrandrena*)
- ziziaeformis** Cockerell. Mass. to Ga., Tenn. On flowers of *Potentilla*. (*Micrandrena*)

Genus PROTOXAEA Cockerell and Porter, p. 1086

**gloriosa gloriosa** (Fox). Visits *Kallstroemia* and *Solanum* for pollen, a variety of flowers for nectar.

Biology: Linsley and Michener, 1962. Kans. Ent. Soc. Jour. 35: 385-389.  
—Cazier and Linsley, 1963. Canad. Ent. 95: 547-556, 2 figs. (male territorial behavior).

**nigerrima nigerrima** (Friese). Delete from Catalog.

PSAENYTHIA subgenus PROTANDRENA Cockerell, p. 1087

**bancrofti** (Dunning). Ind., Wis.

Biology: Chandler, 1962. Kans. Ent. Soc. Jour. 35: 314.

**mexicanorum cockerelli** (Dunning). Ind.

Genus PERDITA Smith, pp. 1087-1097

**\*Perdita** subg. *Allomacrotera* Timberlake, 1960. Calif. Univ. Pubs. Ent. 17: 131.

Type: *Perdita stephanomeriae* Timberlake. By monotypy and by orig. desig.

Revision: Timberlake, 1958. Calif. Univ. Pubs. Ent. 14: 303-410, figs. 368-521 (treats *zonalis* and *halictoides* groups of subgenus *Perdita*).—Timberlake, 1960. Calif. Univ. Pubs. Ent. 17: 1-156, figs. 522-732 (treats *octomaculata* group of subgenus *Perdita*).—Timberlake, 1962. Calif. Univ. Pubs. Ent. 28: 1-124, figs. 733-904, 2 text figs. (treats *ventralis* group of subg. *Perdita*, and suppl. to Parts I-IV).—Timberlake, 1964. Calif. Univ. Pubs. Ent. 28: 125-388, figs. 905-1190, 77 text figs. (treats *sphaeralceae* group of subgenus *Perdita*).

Part VI of the revision of this genus (Timberlake, 1964) was received too late for inclusion.

**\*abdominalis** Timberlake. Southern Calif.; Baja Calif. On flowers of *Pectis papposa*. (*Perdita*)

- Perdita abdominalis* Timberlake, 1960. Calif. Univ. Pubs. Ent. 17: 38, figs. 550, 551, 667. ♀, ♂.
- \**acaciae* Timberlake. Southern Calif. On flowers of *Acacia* and *Agave*. (*Perdita*)  
*Perdita acaciae* Timberlake, 1962. Calif. Univ. Pubs. Ent. 28: 61, figs. 799, 800, 878. ♀, ♂.
- \**accepta* Timberlake. Oreg. (Crook Co.). (*Perdita*)  
*Perdita accepta* Timberlake, 1958. Calif. Univ. Pubs. Ent. 14: 340. ♀.
- \**adjuncta* Timberlake. Nev., Calif., Oreg., Idaho. On flowers of *Chrysothamnus*. (*Perdita*)  
*Perdita adjuncta* Timberlake, 1958. Calif. Univ. Pubs. Ent. 14: 327, figs. 390, 391, 479. ♀, ♂.
- \**aemula* Timberlake. Oreg., Utah. On flowers of *Chrysothamnus*, *Solidago*. (*Perdita*)  
*Perdita aemula* Timberlake, 1958. Calif. Univ. Pubs. Ent. 14: 330, figs. 396, 397, 482. ♂, ♀.
- affinis* Cresson. Colo., N. Mex., Ariz. On flowers of *Aplopappus*, *Grindelia*, *Helianthus* and *Solidago*. (*Perdita*)  
 Taxonomy: Timberlake, 1960, *loc. cit. supra*, p. 108, figs. 636, 637, 720. ♀, ♂.
- \**agasta* Timberlake. Tex. (Hidalgo Co.). (*Hexaperdita*)  
*Perdita agasta* Timberlake, 1958. Calif. Univ. Pubs. Ent. 14: 389. ♀.
- ainsliei* Crawford. N. Mex. (Bernalillo Co.). (*Epimacrotera*)
- albipennis* Cresson. (*Cockerellia*)  
*Perdita albipennis hyalina* Cresson (syn. by Timberlake, 1960, *loc. cit. supra*, p. 130).  
*Perdita albipennis* var. *lingualis* Cockerell. A valid sp. (*teste* Timberlake, 1960, *loc. cit. supra*, p. 131).
- albipennis hyalina* Cresson. Syn. of *albipennis* Cresson.
- \**albipes* Timberlake. Tex. (Big Bend National Park). (*Perdita*)  
*Perdita albipes* Timberlake, 1962. Calif. Univ. Pubs. Ent. 28: 102, figs. 837, 838, 897. ♂.
- \**albocincta* Timberlake. N. Mex. (Laguna). On flowers of *Aplopappus heterophyllus* (*Perdita*)  
*Perdita albocincta* Timberlake, 1960. Calif. Univ. Pubs. Ent. 17: 78. ♀.
- \**albopicta* Timberlake. Utah (Millard Co.). On flowers of *Chrysothamnus*. (*Perdita*)  
*Perdita albopicta* Timberlake, 1958. Calif. Univ. Pubs. Ent. 14: 341. ♀.
- amoena* Timberlake. Mexico (Sonora). (*Pentaperdita*)  
 Taxonomy: Timberlake, 1958, *loc. cit. supra*, p. 386. ♀.
- \**amplipennis* Timberlake. Calif. mts. (Inyo and Mono Counties). On flowers of *Eriogonum* and *Stanleya*. (*Perdita*)  
*Perdita amplipennis* Timberlake, 1962. Calif. Univ. Pubs. Ent. 28: 30, figs. 751, 752, 854. ♀, ♂.
- \**annexa* Timberlake. N. Mex. (Pecos). On flowers of *Hymenoxys richardsoni*. (*Pentaperdita*)  
*Perdita annexa* Timberlake, 1960. Calif. Univ. Pubs. Ent. 17: 133. ♂.
- \**apacheorum* Timberlake. Ariz. On flowers of *Gutierrezia* and *Euphorbia*. (*Perdita*)  
*Perdita apacheorum* Timberlake, 1960. Calif. Univ. Pubs. Ent. 17: 99. ♀.
- \**aplopappi* Timberlake. Ariz., Utah. On flowers of *Aplopappus*, *Eriogonum* and *Gutierrezia*. (*Perdita*)  
*Perdita aplopappi* Timberlake, 1960. Calif. Univ. Pubs. Ent. 17: 98, figs. 626, 627, 715. ♀, ♂.

- \***aridella** Timberlake. Utah, Ariz. On flowers of *Gutierrezia* and *Helianthus*. (*Perdita*)  
*Perdita aridella* Timberlake, 1960. Calif. Univ. Pubs. Ent. 17: 81, figs. 600, 601, 702. ♀, ♂.
- \***atriventris** Timberlake. Tex. (Calvert). On flowers of *Heterotheca subaxillaris*. (*Perdita*)  
*Perdita atriventris* Timberlake, 1960. Calif. Univ. Pubs. Ent. 17: 111, figs. 640, 641, 722. ♂.
- austini** Cockerell. (*Perdita*)  
 Taxonomy: Timberlake, 1962, *loc. cit. supra*, p. 40. ♂.
- baccharidis** Cockerell. Calif. (Riverside and Imperial Counties). (*Perdita*)  
 Taxonomy: Timberlake, 1958, *loc. cit. supra*, p. 352, figs. 428, 429, 498. ♀, ♂.
- beata beata** Cockerell, changed status. Another subspecies occurs in Mexico. (*Cockerellia*)  
*Perdita beata* Cockerell. Reduced to subsp. rank (*teste* Timberlake, 1960, *loc. cit. supra*, p. 130).
- \***beatula** Timberlake. Nev. (Humboldt Co.). (*Perdita*)  
*Perdita beatula* Timberlake, 1960. Calif. Univ. Pubs. Ent. 17: 22, figs. 522, 523, 662. ♂.
- bequaertiana** Cockerell. N. Mex. (Albuquerque). (*Xerophasma*)
- \***bicuspidariae** Timberlake. Southern Calif. (deserts). Collects pollen of *Mentzelia involucrata* (*Perdita*)  
*Perdita bicuspidariae* Timberlake, 1962. Calif. Univ. Pubs. Ent. 28: 20, figs. 741, 742, 849. ♂, ♀.
- bigeloviae** Cockerell. N. Mex., Tex., Colo. On flowers of *Aplopappus heterophyllus*. (*Perdita*)  
 Taxonomy: Timberlake, 1960, *loc. cit. supra*, p. 71, figs. 588, 589, 696. ♀, ♂.
- \***biguttata** Timberlake. Ariz. (Douglas in Cochise Co.). On flowers of *Eriogonum*. (*Epimacrotera*)  
*Perdita biguttata* Timberlake, 1962. Calif. Univ. Pubs. Ent. 28: 95. ♀.
- bipticeps** Cockerell. (*Perdita*)
- \***blanda** Timberlake. N. Mex. (Albuquerque). (*Perdita*)  
*Perdita blanda* Timberlake, 1958. Calif. Univ. Pubs. Ent. 14: 358. ♀.
- \***brevihirta** Timberlake. Ariz. (Maricopa Co.). On flowers of *Pectis papposa*. (*Perdita*)  
*Perdita brevihirta* Timberlake, 1962. Calif. Univ. Pubs. Ent. 28: 41, figs. 771, 772, 864. ♀, ♂.
- \***bridwelli** Timberlake. Ariz., Calif. On flowers of *Sphaeralcea*. (*Perdita*)  
*Perdita bridwelli* Timberlake, 1960. Calif. Univ. Pubs. Ent. 17: 34, figs. 542, 543, 673. ♀, ♂.
- bruneri** Cockerell. Tex. to Man. and Alta. east of Rocky Mts. On flowers of *Grindelia* and other Compositae. (*Perdita*)  
 Taxonomy: Timberlake, 1960, *loc. cit. supra*, p. 101, figs. 628, 629, 716. ♀, ♂.
- \***butleri** Timberlake. Ariz. On flowers of *Hymenothrix* and *Pectis*. (*Perdita*)  
*Perdita butleri* Timberlake, 1960. Calif. Univ. Pubs. Ent. 17: 96, figs. 624, 625, 714. ♀, ♂.
- \***cara** Timberlake. Tex. (Reeves Co.). On flowers of *Prosopis*. (*Hexaperdita*)  
*Perdita cara* Timberlake, 1958. Calif. Univ. Pubs. Ent. 14: 388, figs. 466, 467, 518. ♂.
- carolina** Timberlake. Syn. of **obscurata** Cresson.



**chamaesarachae** Cockerell. Mexico (Durango). (*Perdita*)

Taxonomy: Timberlake, 1958, *loc. cit. supra*, p. 371, figs. 450, 451, 509.  
♀, ♂.

**\*chloris** Timberlake. Calif., Nev., Ariz. On flowers of *Dalea polyadenia*. (*Perdita*)

*Perdita chloris* Timberlake, 1960. Calif. Univ. Pubs. Ent. 17: 64, figs. 576, 577, 690. ♀, ♂.

**\*chrysothamni** Timberlake. Calif. (Mohave Desert). On flowers of *Chrysothamnus*. (*Perdita*)

*Perdita chrysothamni* Timberlake, 1958. Calif. Univ. Pubs. Ent. 14: 319, figs. 374, 375, 473. ♀, ♂.

**\*claypolei australior** Timberlake. Calif. (San Diego and Los Angeles Counties). On flowers of *Eriogonum*. (*Perdita*)

*Perdita claypolei australior* Timberlake, 1962. Calif. Univ. Pubs. Ent. 28: 68. ♀, ♂.

**claypolei claypolei** Cockerell, changed status. Southern Calif. Collects pollen of *Eriogonum*. (*Perdita*)

*Perdita claypolei* Cockerell. Reduced to subsp. rank (*teste* Timberlake, 1962, *loc. cit. supra*, p. 66, figs. 805, 806, 881. ♀, ♂.

**\*claypolei limatula** Timberlake. Calif. (Kern Co.) to Oreg. Collects pollen of *Eriogonum*. (*Perdita*)

*Perdita claypolei limatula* Timberlake, 1962. Calif. Univ. Pubs. Ent. 28: 68. ♀, ♂.

**cleomellae** Cockerell. Calif. (San Bernardino, Inyo, and Kern Counties). On flowers of *Cleomella*. (*Perdita*)

Taxonomy: Timberlake, 1958, *loc. cit. supra*, p. 353, figs. 430, 431, 499.  
♀, ♂.

**\*clypeata clypeata** Timberlake. Southern Calif. On flowers of *Eriogonum inflatum*. (*Perdita*)

*Perdita clypeata clypeata* Timberlake, 1962. Calif. Univ. Pubs. Ent. 28: 79, figs. 817, 818, 887. ♀, ♂.

**\*clypeata immaculata** Timberlake. Ariz., southern Calif. On flowers of *Eriogonum inflatum*. (*Perdita*)

*Perdita clypeata immaculata* Timberlake, 1962. Calif. Univ. Pubs. Ent. 28: 80. ♀, ♂.

**\*cognata** Timberlake. Wyo. (Sweetwater Co.). (*Perdita*)

*Perdita cognata* Timberlake, 1960. Calif. Univ. Pubs. Ent. 17: 93, figs. 616, 617, 710. ♂.

**\*colei** Timberlake. Calif. (San Bernardino Co.). On flowers of *Chrysothamnus*, *Gutierrezia*, *Lepidospartum*, and *Solidago*. (*Perdita*)

*Perdita colei* Timberlake, 1962. Calif. Univ. Pubs. Ent. 28: 48, figs. 783, 784, 870. ♀, ♂.

**consobrina consobrina** Timberlake. (*Perdita*)

Taxonomy: Timberlake, 1960, *loc. cit. supra*, p. 109, figs. 638, 639, 721.  
♀, ♂.

**consobrina lepida** Timberlake. (*Perdita*)**\*covilleae** Timberlake. Southern Calif., Nev., Ariz.; Mexico (Baja California). On flowers of *Baeria*, *Heliotropium*, *Larrea*. (*Perdita*)

*Perdita covilleae* Timberlake, 1958. Calif. Univ. Pubs. Ent. 14: 361, figs. 438, 439, 503. ♀, ♂.

**\*crandalli** Timberlake. Ariz. (Pima and Pinal Counties). On flowers of *Petalonyx thurberi*. (*Perdita*)

*Perdita crandalli* Timberlake, 1962. Calif. Univ. Pubs. Ent. 28: 38. ♀.

**\*crassa** Timberlake. Tex. (Sutton and Gillespie Counties). On flowers of *Opuntia*. (*Macrotera*)

*Perdita crassa* Timberlake, 1958. Calif. Univ. Pubs. Ent. 14: 376, figs. 456, 457, 512. ♀, ♂.

\**crassula* Timberlake. N. Mex. (Las Cruces). (*Epimacrotera*)

*Perdita crassula* Timberlake, 1958. Calif. Univ. Pubs. Ent. 14: 381, figs. 462, 463, 516. ♂.

Taxonomy: Timberlake, 1962, *loc. cit. supra*, p. 93. ♀.

\**croceipes* Timberlake. Ariz. (Yavapai Co.). On flowers of *Gutierrezia microcephala*. (*Perdita*)

*Perdita croceipes* Timberlake, 1960. Calif. Univ. Pubs. Ent. 17: 72, figs. 590, 591, 697. ♂.

\**crotonis caerulea* Timberlake. Utah, Nev. On flowers of *Croton longipes*. (*Perdita*)

*Perdita crotonis caerulea* Timberlake, 1960. Calif. Univ. Pubs. Ent. 17: 47. ♂.

*crotonis crotonis* Cockerell. N. Mex., Ariz.; Mexico (Chihuahua). (*Perdita*)

Taxonomy: Timberlake, 1960, *loc. cit. supra*, p. 44, figs. 558, 559, 681. ♀, ♂.

\**crotonis cucullata* Timberlake. Calif. (Anza). On flowers of *Croton californicus*. (*Perdita*)

*Perdita crotonis cucullata* Timberlake, 1960. Calif. Univ. Pubs. Ent. 17: 46. ♀, ♂.

\**crotonis decipiens* Timberlake. Tex. (Victoria). (*Perdita*)

*Perdita crotonis decipiens* Timberlake, 1960. Calif. Univ. Pubs. Ent. 17: 48. ♀, ♂.

\**crotonis dilucida* Timberlake. Ariz., possibly Kans. and Nebr. On flowers of *Euphorbia*. (*Perdita*)

*Perdita crotonis dilucida* Timberlake, 1960. Calif. Univ. Pubs. Ent. 17: 47. ♀, ♂.

\**crotonis juabensis* Timberlake. Utah (Juab Co.). On flowers of *Croton texensis*. (*Perdita*)

*Perdita crotonis juabensis* Timberlake, 1962. Calif. Univ. Pubs. Ent. 28: 103. ♀, ♂.

\**crotonis leucoptera* Timberlake. Southern Calif. On flowers of *Croton* and *Hoffmanseggia*. (*Perdita*)

*Perdita crotonis leucoptera* Timberlake, 1960. Calif. Univ. Pubs. Ent. 17: 45. ♀, ♂.

\**crotonis subnitens* Timberlake. Kans. On flowers of *Croton monanthogynus*. (*Perdita*)

*Perdita crotonis subnitens* Timberlake, 1960. Calif. Univ. Pubs. Ent. 17: 48. ♀.

\**crotonis titusi* Timberlake. Calif. (Chino). (*Perdita*)

*Perdita crotonis titusi* Timberlake, 1960. Calif. Univ. Pubs. Ent. 17: 46. ♀, ♂.

*crotonis undecimalis* Cockerell. N. Mex. On *Croton*. (*Perdita*)

Taxonomy: Timberlake, 1960, *loc. cit. supra*, p. 45. ♀.

*dallasiana* Cockerell. A subsp. of *gerhardi* Viereck.

\**dalyi* Timberlake. Tex. (El Paso). On flowers of *Aplopappus*. (*Perdita*)

*Perdita dalyi* Timberlake, 1960. Calif. Univ. Pubs. Ent. 17: 119. ♀.

*dasyliirii* Cockerell. Western Tex. to Ariz. On many flowers. (*Perdita*)

Taxonomy: Timberlake, 1962, *loc. cit. supra*, p. 55, figs. 793, 794, 875, ♀, ♂.

\**dicksoni* Timberlake. Calif. (Inyo Co.). On flowers of *Chrysothamnus albidus*. (*Perdita*)

*Perdita dicksoni* Timberlake, 1958. Calif. Univ. Pubs. Ent. 14: 328, figs. 392, 393, 480. ♀, ♂.

\**dilecta* Timberlake. Utah, Tex. (*Perdita*)

*Perdita dilecta* Timberlake, 1960. Calif. Univ. Pubs. Ent. 17: 40, figs. 554, 555, 679. ♀, ♂.

- \***dimidiata** Timberlake. Ariz. (Pinal Co.); Mexico (Baja California). On flowers of *Sesuvium verrucosum*. (**Perdita**)  
**Perdita dimidiata** Timberlake, 1962. Calif. Univ. Pubs. Ent. 28: 39, figs. 767, 768, 862. ♂.
- discreta** Timberlake. (**Perdita**)  
 Taxonomy: Timberlake, 1960, *loc. cit. supra*, p. 115, figs. 646, 647, 725. ♂.
- \***distans** Timberlake. Southern Calif. On flowers of *Eriogonum*. (**Perdita**)  
**Perdita distans** Timberlake, 1962. Calif. Univ. Pubs. Ent. 28: 73, figs. 811, 812, 884. ♀, ♂.
- dolichocephala** Swenk and Cockerell. Nebr., Kans., Colo. On flowers of *Amorpha*, *Boltonia*, *Euphorbia*, *Helianthus*, and *Heterotheca*. (**Perdita**)  
 Taxonomy: Timberlake, 1960, *loc. cit. supra*, p. 116, figs. 648, 649, 726.
- \***drymariae** Timberlake. N. Mex. (Dona Ana Co.); Mexico (San Luis Potosi). Taken on flowers of *Drymaria holsteoides*.  
**Perdita drymariae** Timberlake, 1960. In Mitchell, N. C. Agr. Expt. Sta. Tech. Bull. 141: 324. ♀, ♂.
- \***electa** Timberlake. Wyo. (Sweetwater Co.). On flowers of *Chrysothamnus nauseosus*. (**Perdita**)  
**Perdita electa** Timberlake, 1960. Calif. Univ. Pubs. Ent. 17: 86. ♀.
- \***elegans** Timberlake. Calif. (Colorado Desert), Ariz. On flowers of *Abronia*, *Larrea*, *Palafoxia*, and *Pectis*. (**Perdita**)  
**Perdita elegans** Timberlake, 1960. Calif. Univ. Pubs. Ent. 17: 55, figs. 568, 569, 686, ♀, ♂.
- \***ericameriae** Timberlake. Southern Calif. On flowers of *Aplopappus*, *Gutierrezia*, *Lepidospartum*. (**Perdita**)  
**Perdita ericameriae** Timberlake, 1958. Calif. Univ. Pubs. Ent. 14: 317, figs. 372, 373, 472. ♀, ♂.
- \***erythropyga** Timberlake. Calif. (Riverside Co.). Collects pollen of *Dalea*. (**Perdita**)  
**Perdita erythropyga** Timberlake, 1962. Calif. Univ. Pubs. Ent. 28: 42, figs. 773, 774, 865. ♀, ♂.
- euphorbiae** Timberlake. Mexico (Sonora). On flowers of *Euphorbia* and *Kallstroemia*. (**Epimacrotera**)
- \***excellens** Timberlake. Utah (Grand and Washington Counties). (**Procockereilia**)  
**Perdita excellens** Timberlake, 1958. Calif. Univ. Pubs. Ent. 14: 384. ♀.
- \***exilis** Timberlake. Southern Calif. (deserts). Collects pollen of *Petalonyx thurberi*. (**Perdita**)  
**Perdita exilis** Timberlake, 1962. Calif. Univ. Pubs. Ent. 28: 36, figs. 763, 764, 860. ♂, ♀.
- fallax** Cockerell, changed status. Tex. to Ariz., north to Nebr. and Mont. Visits *Helianthus* and other Compositae. (**Perdita**)  
**Perdita fallax fallax** Cockerell. Raised to sp. rank (*teste* Timberlake, 1960, *loc. cit. supra*, p. 106, figs. 634, 635, 719).  
**Perdita fallax fontis** Cockerell. Syn. of **fallax** (*teste* Timberlake 1960, *loc. cit. supra*, p. 106).
- fallax fontis** Cockerell. Syn. of **fallax** Cockerell.
- \***fasciata** Timberlake. Colo. (Crook). (**Perdita**)  
**Perdita fasciata** Timberlake, 1960. Calif. Univ. Pubs. Ent. 17: 57. ♀.
- \***festiva** Timberlake. Utah (Emery Co.). (**Perdita**)  
**Perdita festiva** Timberlake, 1958. Calif. Univ. Pubs. Ent. 14: 321. ♀.
- \***flavicauda flavicauda** Timberlake. Calif. (Indio). On flowers of *Melilotus*. (**Perdita**)

- Perdita flavicauda flavicauda* Timberlake, 1960. Calif. Univ. Pubs. Ent. 17: 39. ♀. (Misspelled *flavicauda flavicauda* in key, p. 4.)
- \**flavicauda formosa* Timberlake. Calif. (near Blythe). On flowers of *Nama hispidum*. (*Perdita*)
- Perdita flavicauda formosa* Timberlake, 1960. Calif. Univ. Pubs. Ent. 17: 40. ♀. (Misspelled *flavicauda formosa* in key, p. 4.)
- \**flaviceps* Timberlake. Nev. (Las Vegas). (*Perdita*)
- Perdita flaviceps* Timberlake, 1960. Calif. Univ. Pubs. Ent. 17: 37, figs. 548, 549, 676. ♂.
- \**foleyi* Timberlake. Calif. (Tulare Co.). (*Perdita*)
- Perdita foleyi* Timberlake, 1958. Calif. Univ. Pubs. Ent. 14: 347, figs. 418, 419, 493. ♀, ♂.
- foveata foveata* Timberlake. Tex., Fla. On flowers of *Coreopsis*, *Hymenopappus*. (*Hexaperdita*)
- fraterna* Timberlake. Ariz. On flowers of *Gutierrezia microcephala*. (*Perdita*)
- Taxonomy: Timberlake, 1958. Calif. Univ. Pubs. Ent. 14: 329, figs. 394, 395, 481. ♀, ♂.
- \**fulvicauda* Timberlake. Southern Calif.; Mexico (Baja California). On flowers of *Baileya*, *Dalea*, *Coldenia*, *Larrea*, *Melilotus*, *Nama*, *Phacelia* and *Prosopis*. (*Perdita*)
- Perdita fulvicauda* Timberlake, 1962. Calif. Univ. Pubs. Ent. 28: 43, figs. 775, 776, 866. ♀, ♂.
- \**gentilis* Timberlake. Nev. (Churchill and Washoe Counties). (*Perdita*)
- Perdita gentilis* Timberlake, 1962. Calif. Univ. Pubs. Ent. 28: 78. ♀.
- gerardiae* Crawford. (*Perdita*)
- Taxonomy: Timberlake, 1960, *loc. cit. supra*, p. 68, figs. 582, 583, 693. ♀, ♂.
- gerhardi arenicola* Timberlake. Syn. of *gerhardi gerhardi* Viereck.
- gerhardi dallasiana* Cockerell, changed status. On flowers of *Aster*, *Dalea*, *Helianthus*, and *Monarda*. (*Perdita*)
- Perdita dallasiana* Cockerell. Reduced to subsp. rank (*teste* Timberlake, 1960, *loc. cit. supra*, p. 28, figs. 534, 535, 668).
- gerhardi gerhardi* Viereck. Wis., Ill., Ind. (*Perdita*)
- Perdita gerhardi arenicola* Timberlake (syn. by Timberlake, 1960, *loc. cit. supra*, p. 27).
- gerhardi monardae* Viereck. N. J., Va., Fla. (*Perdita*)
- Taxonomy: Timberlake, 1960, *loc. cit. supra*, p. 28. ♀, ♂.
- \**glabrescens* Timberlake. Calif. (Inyo Co.). (*Perdita*)
- Perdita glabrescens* Timberlake, 1962. Calif. Univ. Pubs. Ent. 28: 38, figs. 765, 766, 861. ♀, ♂.
- grandiceps* Cockerell. (*Perdita*)
- Taxonomy: Timberlake, 1962, *loc. cit. supra*, p. 32, figs. 757, 758, 857. ♀, ♂.
- gutierreziae* Cockerell. Nebr., Colo., Tex., N. Mex., Ariz. On flowers of *Chrysothamnus*, *Gutierrezia*, and *Solidago*. (*Perdita*)
- Taxonomy: Timberlake, 1960, *loc. cit. supra*, p. 74, figs. 594, 595, 699. ♀, ♂.
- \**haigi* Timberlake. Nev. (Churchill Co.). (*Perdita*)
- Perdita haigi* Timberlake, 1962. Calif. Univ. Pubs. Ent. 28: 100, figs. 833, 834, 895. ♀, ♂.
- halictoides* Smith. Mich. and Ind., west to N. Dak., Colo., and Tex.; Fla. (*Perdita*)
- Perdita punctata* Cockerell (syn. by Timberlake, 1960, *loc. cit. supra*, p. 135).

*Perdita maura* Cockerell (syn. by Timberlake, 1960, *loc. cit. supra*, p. 135).

\**halli* Timberlake. Calif. (Palm Springs). (*Perdita*)

*Perdita halli* Timberlake, 1960. Calif. Univ. Pubs. Ent. 17: 89, figs. 612, 613, 708. ♀, ♂.

*haplura* Cockerell. (*Macrotropis*)

Taxonomy: Timberlake, 1960, *loc. cit. supra*, p. 124. ♀.—Timberlake, 1962, *loc. cit. supra*, p. 87, text fig. A. ♂.

*heliotropii heliotropii* Cockerell, changed status. Southern Calif., Nev., Ariz., N. Mex., Tex.; Mexico (Baja California, Sonora, Chihuahua). On flowers of *Larrea*, *Tamarix*. (*Perdita*)

*Perdita heliotropii* Cockerell. Reduced to subsp. rank (*teste* Timberlake, 1958, *loc. cit. supra*, p. 364, figs. 442, 443, 505, 521).

\**heliotropii perducta* Timberlake. Central Calif. On flowers of *Heliotropium*, *Stanleya*. (*Perdita*)

*Perdita heliotropii perducta* Timberlake, 1958. Calif. Univ. Pubs. Ent. 14: 365. ♀, ♂.

\**heterothecae trizonata* Timberlake. Ariz. (Willcox). On flowers of *Aster* and *Euphorbia*. (*Hexaperdita*)

*Perdita heterothecae trizonata* Timberlake, 1962. Calif. Univ. Pubs. Ent. 28: 96. ♀, ♂.

*hirsuta* Cockerell. N. Mex., Ariz. On flowers of *Dalea*. (*Perdita*)

Taxonomy: Timberlake, 1960, *loc. cit. supra*, p. 66, figs. 580, 581, 692. ♀, ♂.

\**hirticeps apicata* Timberlake. Calif. (Mohave Desert). On flowers of *Stephanomeria* and *Malacothrix*. (*Perdita*)

*Perdita hirticeps apicata* Timberlake, 1960. Calif. Univ. Pubs. Ent. 17: 59. ♀, ♂.

\**hirticeps candidipennis* Timberlake. Utah (Oak City). On flowers of *Helianthus*. (*Perdita*)

*Perdita hirticeps candidipennis* Timberlake, 1960. Calif. Univ. Pubs. Ent. 17: 60. ♀.

\**hirticeps hirticeps* Timberlake. Calif. (cismontane). On flowers of *Coreopsis*, *Hemizonia* and *Stephanomeria*. (*Perdita*)

*Perdita hirticeps hirticeps* Timberlake, 1960. Calif. Univ. Pubs. Ent. 17: 58, figs. 570, 571, 687. ♀, ♂.

\**hirticeps luteocincta* Timberlake. Calif. (Antioch). On flowers of *Gutierrezia californica*. (*Perdita*)

*Perdita hirticeps luteocincta* Timberlake, 1960. Calif. Univ. Pubs. Ent. 17: 60. ♀.

\**holoxantha* Timberlake. Utah (Washington Co.). (*Perdita*)

*Perdita holoxantha* Timberlake, 1962. Calif. Univ. Pubs. Ent. 28: 17, figs. 737, 738, 847. ♂.

*hurdi* Timberlake. Mexico (Sonora). On flowers of *Proboscidea*. (*Glossoperdita*)

Biology: Hurd and Linsley, 1963. Kans. Ent. Soc. Jour. 36: 248-252, 5 figs.

*hyalina* Cresson. Syn. of *albipennis* Cresson.

\**idahoensis* Timberlake. Idaho (Cassia Co.). On flowers of *Chrysothamnus*. (*Pentaperdita*)

*Perdita idahoensis* Timberlake, 1958. Calif. Univ. Pubs. Ent. 14: 385, figs. 464, 465, 517. ♂, ♀.

\**ignota basalis* Timberlake. Tex. (Hidalgo Co.); Mexico (Tamaulipas). (*Hexaperdita*)

*Perdita ignota basalis* Timberlake, 1958. Calif. Univ. Pubs. Ent. 14: 391. ♀, ♂.

- \***impunctifrons** Timberlake. Calif. (Inyo Co.). (*Perdita*)  
*Perdita impunctifrons* Timberlake, 1958. Calif. Univ. Pubs. Ent. 14: 355.  
 ♀.
- \***incana** Timberlake. Tex., N. Mex. (*Cockerellia*)  
*Perdita incana* Timberlake, 1958. Calif. Univ. Pubs. Ent. 14: 383. ♀, ♂.
- \***indioensis** Timberlake. Calif. (Indio). On flowers of *Aplopappus acradenus*. (*Perdita*)  
*Perdita indioensis* Timberlake, 1960. Calif. Univ. Pubs. Ent. 17: 54, figs. 566, 567, 685. ♀, ♂.
- \***inornata** Timberlake. Calif., Nev., Ariz. On flowers of *Agave*, *Cowania*, and *Eriodictyon*. (*Perdita*)  
*Perdita inornata* Timberlake, 1962. Calif. Univ. Pubs. Ent. 28: 49, figs. 787, 788, 872. ♀, ♂.
- \***interserta ciliata** Timberlake. Northern Calif., Oreg., Idaho. On flowers of *Eriogonum*, *Gutierrezia*, *Heterotheca*, *Lessingia*, *Senecio*, *Solidago*. (*Perdita*)  
*Perdita interserta ciliata* Timberlake, 1958. Calif. Univ. Pubs. Ent. 14: 334, figs. 404, 405, 486. ♀, ♂.
- interserta interserta** Cockerell, changed status. Southern Calif. On flowers of *Aplopappus*, *Baccharis*, *Chrysothamnus*, *Lepidospartum*, *Solidago*, *Polygonum*. (*Perdita*)  
*Perdita interserta* Cockerell. Reduced to subsp. rank (*teste* Timberlake, 1958, *loc. cit. supra*, p. 333, figs. 402, 403, 485).
- \***isocomae** Timberlake. Calif. (Riverside). On flowers of *Aplopappus*, *Baccharis*, *Polygonum*, *Solidago*. (*Perdita*)  
*Perdita isocomae* Timberlake, 1958. Calif. Univ. Pubs. Ent. 14: 335, figs. 408, 409, 488. ♂, ♀.
- jonesi** Cockerell. Tex., Kans. On flowers of *Dalea*, *Monarda*, and *Petalostemum*. (*Perdita*)  
 Taxonomy: Timberlake, 1960, *loc. cit. supra*, p. 114, figs. 644, 645, 724.  
 ♀, ♂.
- \***jucunda** Timberlake. Calif., Nev., Ariz. Collects pollen of *Eriogonum*. (*Perdita*)  
*Perdita jucunda* Timberlake, 1962. Calif. Univ. Pubs. Ent. 28: 64, figs. 803, 804, 880. ♀, ♂.
- \***knowltoni** Timberlake. Utah (Moab). (*Perdita*)  
*Perdita knowltoni* Timberlake, 1960. Calif. Univ. Pubs. Ent. 17: 51, figs. 562, 563, 683. ♀, ♂.
- \***knulli** Timberlake. Tex. (Davis Mts.). (*Cockerellula*)  
*Perdita knulli* Timberlake, 1960. Calif. Univ. Pubs. Ent. 17: 123, figs. 652, 653, 728. ♂, ♀.
- \***krombeini** Timberlake. Fla. (Lee Co.).  
*Perdita krombeini* Timberlake, 1960. In Mitchell, N. C. Agr. Expt. Sta. Tech. Bull. 141: 327. ♂.
- \***labergei** Timberlake. Kans. (Hutchinson). On flowers of *Euphorbia*. (*Perdita*)  
*Perdita labergei* Timberlake, 1960. Calif. Univ. Pubs. Ent. 17: 41, figs. 556, 557, 680. ♀, ♂.
- \***labrata** Timberlake. Southern Calif. Collects pollen of *Eriogonum*. (*Perdita*)  
*Perdita labrata* Timberlake, 1962. Calif. Univ. Pubs. Ent. 28: 81, figs. 821, 822, 889, 901. ♀, ♂.
- lasiogastra** Timberlake. Tex., N. Mex., Colo. On flowers of *Pectis papposa*. (*Perdita*)  
 Taxonomy: Timberlake, 1960, *loc. cit. supra*, p. 84, figs. 606, 607, 705. ♀, ♂.

- \***lateralis daleae** Timberlake. Calif. (mts., Inyo Co.). On flowers of *Chaenactis*, *Dalea*, and *Erigonum*. (**Perdita**)  
*Perdita lateralis daleae* Timberlake, 1962. Calif. Univ. Pubs. Ent. 28: 29.  
 ♀, ♂.
- \***lateralis lateralis** Timberlake. Calif. (Colorado desert), Ariz. On flowers of *Larrea* and *Prosopis*. (**Perdita**)  
*Perdita lateralis lateralis* Timberlake, 1962. Calif. Univ. Pubs. Ent. 28: 27, figs. 749, 750, 853. ♀, ♂.
- laticincta** Swenk and Cockerell. N. Dak., Nebr., Kans., Wyo., N. Mex. On flowers of *Amorpha*, *Aplopappus*, *Helianthus* and *Melilotus*. (**Perdita**)  
 Taxonomy: Timberlake, 1960, *loc. cit. supra*, p. 76, figs. 596, 597, 700. ♀, ♂.
- \***lenis** Timberlake. Tex., N. Mex., Ariz. On flowers of *Baileya*, *Chamaes-racha*, *Physalis*, *Verbesina*. (**Perdita**)  
*Perdita lenis* Timberlake, 1958. Calif. Univ. Pubs. Ent. 14: 372, figs. 452, 453, 510. ♀, ♂.
- \***lepidosparti lepidosparti** Timberlake. Calif., Nev., Idaho. On flowers of flowers of *Amorpha*, *Aplopappus*, *Helianthus* and *Melilotus*. (**Perdita**)  
*Perdita lepidosparti lepidosparti* Timberlake, 1958. Calif. Univ. Pubs. Ent. 14: 325, figs. 386, 387, 478. ♂, ♀.
- \***lepidosparti novella** Timberlake. Southern Calif. (**Perdita**)  
*Perdita lepidosparti novella* Timberlake, 1958. Calif. Univ. Pubs. Ent. 14: 326, figs. 388, 389. ♀, ♂.
- lingualis** Cockerell. Nebr., Kans., Tex., N. Mex., Colo., Utah; Mexico (Tamaulipas). (**Cockerellia**)  
*Perdita albipennis* var. *lingualis* Cockerell, formerly a syn. of *albipennis*, raised to sp. rank (*teste* Timberlake, 1960, *loc. cit. supra*, p. 131).  
 Biology: Michener, 1963. Kans. Ent. Soc. Jour. 36: 114-118, 6 figs.
- lobata** Timberlake. (**Cockerellula**)  
 Taxonomy: Timberlake, 1960, *loc. cit. supra*, p. 122. ♀.
- \***lompocensis** Timberlake. Calif. (Lompoc). (**Perdita**)  
*Perdita lompocensis* Timberlake, 1958. Calif. Univ. Pubs. Ent. 14: 337, figs. 410, 411, 489. ♂, ♀.
- \***lucens** Timberlake. Southern Calif., Nev. On flowers of *Eriogonum*. (**Perdita**)  
*Perdita lucens* Timberlake, 1962. Calif. Univ. Pubs. Ent. 28: 71, figs. 809, 810, 883. ♀, ♂.
- \***lunulata** Timberlake. Ariz. (Apache Co.). On flowers of *Eriogonum aureum*. (**Perdita**)  
*Perdita lunulata* Timberlake, 1962. Calif. Univ. Pubs. Ent. 28: 22. ♀.
- luteiceps** Cockerell. Colo. (**Perdita**)  
 Taxonomy: Timberlake, 1960, *loc. cit. supra*, p. 36, figs. 544, 545, 674. ♀, ♂.
- luteola** Cockerell. Nebr., Colo., N. Mex., Ariz. At flowers of *Aplopappus*, *Gutierrezia*, and other Compositae. (**Perdita**)
- maculigera maculigera** Cockerell. On flowers of *Salix*. (**Perdita**)  
 Taxonomy: Timberlake, 1960, *loc. cit. supra*, p. 32. ♀, ♂.
- maculigera maculipennis** Graenicher. Wis., Ill., Iowa, Kans., Tex. At flowers of *Erigeron*, *Melilotus* and *Salix*. Nests in sand. (**Perdita**)  
 Taxonomy: Timberlake, 1960, *loc. cit. supra*, p. 33, figs. 540, 541, 671, 672. ♀, ♂.  
 Biology: Michener and Ordway, 1963. Kans. Ent. Soc. Jour. 36: 34-45, 10 figs.

- maculigera** var. **bilineata** Timberlake, changed status. Ill., Mo., Kans., Nebr., S. Dak. (*Perdita*)  
*Perdita maculigera bilineata* Timberlake. Changed to varietal status (teste Timberlake, 1960, *loc. cit. supra*, p. 33).
- maculipes** Cockerell. (*Perdita*)
- \***maculosa** Timberlake. Calif. (Riverside Co.). On flowers of *Coldenia*. (*Heteroperdita*)  
*Perdita maculosa* Timberlake, 1958. Calif. Univ. Pubs. Ent. 14: 378, fig. 514. ♀, ♂.
- \***magniceps** Timberlake. N. Mex. (Luna Co.). On flowers of *Sphaeralcea*. (*Macroteropsis*)  
*Perdita magniceps* Timberlake, 1960. Calif. Univ. Pubs. Ent. 17: 124, figs. 654, 655, 729. ♂.
- \***malacothricis** var. **unica** Timberlake. Calif. (Riverside Co.). (*Pygoperdita*)  
*Perdita malacothricis* var. **unica** Timberlake, 1962. Calif. Univ. Pubs. Ent. 28: 96. ♀.
- marcialis** Cockerell. (*Perditella*)  
*Perdita phaceliae* Cockerell (syn. by Timberlake, 1960, *loc. cit. supra*, p. 134).
- maura** Cockerell. Syn. of **halictoides** Smith.
- \***media** Timberlake. Calif. deserts. On flowers of *Aplopappus*, *Gutierrezia*, and *Solidago*. (*Perdita*)  
*Perdita media* Timberlake, 1960. Calif. Univ. Pubs. Ent. 17: 73, figs. 592, 593, 698. ♀, ♂.
- melanostoma** Swenk and Cockerell. Nebr., N. Mex., Ariz. On flowers of *Gutierrezia*. (*Perdita*)  
 Taxonomy: Timberlake, 1960, *loc. cit. supra*, p. 78. ♀.
- \***melanura** Timberlake. Ariz. (Grand Canyon). (*Perdita*)  
*Perdita melanura* Timberlake, 1962. Calif. Univ. Pubs. Ent. 28: 52. ♀.
- mellina** Cockerell. (*Hexaperdita*)  
 Taxonomy: Timberlake, 1958, *loc. cit. supra*, p. 390. ♀.
- mentzeliae** Cockerell. Colo., N. Mex., Ariz. On flowers of *Mentzelia pumila*. (*Perdita*)  
*Perdita pallidior* Cockerell (syn. by Timberlake, 1962, *loc. cit. supra*, p. 24, figs. 745, 746, 851. ♀, ♂).
- mentzeliarum** Cockerell. Western Tex. to Ariz.; Mexico (Chihuahua). On flowers of *Mentzelia pumila*. (*Perdita*)  
 Taxonomy: Timberlake, 1962, *loc. cit. supra*, p. 23, figs. 743, 744, 850. ♀, ♂.
- \***micelbacheri** Timberlake. Ariz.; Mexico (Baja California). On flowers of *Acacia* and *Carnegiea*. (*Perdita*)  
*Perdita micelbacheri* Timberlake, 1962. Calif. Univ. Pubs. Ent. 28: 60, figs. 797, 798, 877. ♀, ♂.
- \***microsticta** Timberlake. Kans. (Scott Co.). (*Perdita*)  
*Perdita microsticta* Timberlake, 1960. Calif. Univ. Pubs. Ent. 17: 89. ♀.
- \***mimula** Timberlake. Calif. (Colorado Desert). On flowers of *Aplopappus acradenius*. (*Perdita*)  
*Perdita mimula* Timberlake, 1960. Calif. Univ. Pubs. Ent. 17: 53. ♀.
- miricornis** Cockerell. A subsp. of **wilmattae** Cockerell.
- \***missionis** Timberlake. Tex.; Mexico (Tamaulipas, San Luis Potosi). On flowers of *Chamaesaracha*, *Lesquerella*, *Physalis*. (*Perdita*)  
*Perdita missionis* Timberlake, 1958. Calif. Univ. Pubs. Ent. 14: 369, figs. 446, 447, 507. ♂, ♀.
- \***munda** Timberlake. Utah, Ariz. (*Perdita*)  
*Perdita munda* Timberlake, 1958. Calif. Univ. Pubs. Ent. 14: 340. ♀.



- \***nanula** Timberlake. Ariz. (Douglas). On flowers of *Euphorbia albomarginata*. (*Epimacrotera*)  
*Perdita nanula* Timberlake, 1960. Calif. Univ. Pubs. Ent. 17: 129. ♀.
- \***nasuta galacticoptera** Timberlake. Calif. (Inyo Co.). On flowers of *Eriogonum inflatum*. (*Perdita*)  
*Perdita nasuta galacticoptera* Timberlake, 1962. Calif. Univ. Pubs. Ent. 28: 76. ♀, ♂.
- \***nasuta nasuta** Timberlake. Southern Calif., Nev., Ariz. On flowers of *Eriogonum trichopes*. (*Perdita*)  
*Perdita nasuta nasuta* Timberlake, 1962. Calif. Univ. Pubs. Ent. 28: 74, figs. 813, 814, 885. ♀, ♂.
- \***nasuta obscurescens** Timberlake. Ariz., N. Mex. On flowers of *Eriogonum*. (*Perdita*)  
*Perdita nasuta obscurescens* Timberlake, 1962. Calif. Univ. Pubs. Ent. 28: 76. ♀, ♂.
- \***navarretiae angusticeps** Timberlake. Calif. (Tuolumne Co.). (*Glossoperdita*)  
*Perdita navarretiae angusticeps* Timberlake, 1960. Calif. Univ. Pubs. Ent. 17: 128. ♂, ♀.
- \***navarretiae navarretiae** Timberlake. Calif. (Mariposa Co.). On flowers of *Navarretia*. (*Glossoperdita*)  
*Perdita navarretiae* Timberlake, 1958. Calif. Univ. Pubs. Ent. 14: 379, figs. 460, 461, 515. ♂. Reduced to subsp. rank (*teste* Timberlake, 1960, *loc. cit. supra*, p. 128).
- \***navarretiae powelli** Timberlake. Calif. (Nevada Co.). (*Glossoperdita*)  
*Perdita navarretiae powelli* Timberlake, 1962. Calif. Univ. Pubs. Ent. 91. ♂, ♀.
- nebrascensis** Swenk and Cockerell. (*Pygoperdita*)  
 Taxonomy: Timberlake, 1958, *loc. cit. supra*, p. 395.
- \***nigridia** Timberlake. Calif. (Colorado desert). Collects pollen of *Mentzelia involucrata*. (*Perdita*)  
*Perdita nigridia* Timberlake, 1962. Calif. Univ. Pubs. Ent. 28: 18, figs. 777, 778, 867. ♂, ♀.
- nigrifacies** Timberlake. Mexico (San Luis Potosi, Zacatecas). (*Pentaperdita*)  
 Taxonomy: Timberlake, 1962, *loc. cit. supra*, p. 95.
- \***nigrocincta** Timberlake. Calif. (Mono Co.). (*Perdita*)  
*Perdita nigrocincta* Timberlake, 1958. Calif. Univ. Pubs. Ent. 14: 351. ♀.
- nitidella** Cockerell. N. Mex., Ariz. On flowers of *Aplopappus* and *Gutierrezia*. (*Perdita*)  
 Taxonomy: Timberlake, 1960, *loc. cit. supra*, p. 70, figs. 586, 587, 695. ♂.
- \***nubila** Timberlake. Fla., Ark. On flowers of *Erigeron*. (*Hexaperdita*)  
*Perdita nubila* Timberlake, 1958. Calif. Univ. Pubs. Ent. 14: 392. ♀, ♂.
- nuda** Cockerell. N. Mex., Ariz. On flowers of *Erigeron*. (*Perdita*)  
 Taxonomy: Timberlake, 1960, *loc. cit. supra*, p. 119. ♀.—Timberlake, 1962, *loc. cit. supra*, p. 104, figs. 839, 840, 898. ♂.
- \***numerata hesperia** Timberlake. Southern Calif.; Mexico (Baja California). On flowers of *Geraea*, *Larrea*, *Melilotus*, and *Prosopis*. (*Perdita*)  
*Perdita numerata hesperia* Timberlake, 1960. Calif. Univ. Pubs. Ent. 17: 62. ♀, ♂.
- numerata numerata** Cockerell, changed status. Tex., N. Mex., Ariz. On flowers of *Actinea* and *Salix*. (*Perdita*)  
*Perdita numerata* Cockerell. Reduced to subsp. rank (*teste* Timberlake, 1960, *loc. cit. supra*, p. 60, figs. 572, 573, 688).

- \***obispoensis** Timberlake. Calif. (San Luis Obispo Co.). (*Perdita*)  
*Perdita obispoensis* Timberlake, 1958. Calif. Univ. Pubs. Ent. 14: 335, figs. 406, 407, 487. ♂.
- obscurata** Cresson. (*Alloperdita*)  
*Perdita carolina* Timberlake (syn. by Timberlake, 1960, *loc. cit. supra*, p. 134).
- \***occidua** Timberlake. Ariz. (Oak Creek Canyon). (*Perdita*)  
*Perdita occidua* Timberlake, 1960. Calif. Univ. Pubs. Ent. 17: 120. ♀.
- octomaculata terminata** Cockerell. N. Dak., Nebr., Kans., Iowa, Ill., Ark., Miss. On flowers of *Aster* and *Solidago*. (*Perdita*)
- octomaculata octomaculata** (Say). (*Perdita*)  
 Taxonomy: Timberlake, 1960, *loc. cit. supra*, p. 111, figs. 642, 643, 723. ♀, ♂.
- opuntiae** Cockerell. Wyo.
- \***ordinata** Timberlake. Ariz. (Cochise and Navajo Counties). (*Perdita*)  
*Perdita ordinata* Timberlake, 1962. Calif. Univ. Pubs. Ent. 28: 105, figs. 841, 842, 899. ♂.
- \***oregonensis expleta** Timberlake. Calif. (Sierra Co.). On flowers of *Chrysothamnus*. (*Perdita*)  
*Perdita oregonensis expleta* Timberlake, 1962. Calif. Univ. Pubs. Ent. 28: 99. ♀.
- oregonensis oregonensis** Timberlake, changed status. Nev., Wash. On flowers of *Chrysothamnus*, *Gutierrezia*. (*Perdita*)  
 Taxonomy: Timberlake, 1958, *loc. cit. supra*, p. 320, figs. 378, 379, 475. ♀, ♂.—Timberlake, 1962, *loc. cit. supra*, p. 98 (reduced to subsp. rank).
- pallidior** Cockerell. Syn. of *mentzeliae* Cockerell.
- \***pallidiventris** Timberlake. Calif. (Fresno Co.). On flowers of *Eriogonum fasciculatum*. (*Perdita*)  
*Perdita pallidiventris* Timberlake, 1962. Calif. Univ. Pubs. Ent. 28: 99. ♀.
- \***parilis** Timberlake. Utah. On flowers of *Chrysothamnus*, *Gutierrezia*. (*Perdita*)  
*Perdita parilis* Timberlake, 1958. Calif. Univ. Pubs. Ent. 14: 342, figs. 414, 415, 491. ♀, ♂.
- \***paroselae** Timberlake. Southern Calif. On flowers of *Dalea*. (*Perdita*)  
*Perdita paroselae* Timberlake, 1960. Calif. Univ. Pubs. Ent. 17: 65, figs. 578, 579, 691. ♀, ♂.
- pectidis** Cockerell. N. Mex., Ariz. On flowers of *Kallstroemia*, *Pectis*, and *Sesuvium*. (*Perdita*)  
 Taxonomy: Timberlake, 1960, *loc. cit. supra*, p. 91, figs. 614, 615, 709. ♀, ♂.
- pellucida** Cockerell. (*Perdita*)
- \***perixantha** Timberlake. Ariz. (Navajo Co.). (*Perdita*)  
*Perdita perixantha* Timberlake, 1960. Calif. Univ. Pubs. Ent. 17: 23, figs. 524, 525, 663. ♂.
- perpallida citrinella** Graenicher. Wis., Minn., Nebr. On flowers of *Petalostemum*. (*Perdita*)
- perpallida perpallida** Cockerell. Minn., N. Dak., Nebr., Kans., N. Mex. At flowers of *Amorpha*, *Helenium*, *Petalostemum*, and *Solidago*. (*Perdita*)  
 Taxonomy: Timberlake, 1960, *loc. cit. supra*, p. 25, figs. 532, 533, 667. ♀, ♂.
- \***perplexa** Timberlake. N. Mex. (Catron Co.). On flowers of *Mentzelia*. (*Perdita*)

- Perdita perplexa*** Timberlake, 1962. Calif. Univ. Pubs. Ent. 28: 19, figs. 739, 740, 848. ♀, ♂.
- phaceliae*** Cockerell. Syn. of ***marcialis*** Cockerell.
- phymatae*** Cockerell. N. Mex., Ariz. On flowers of *Aplopappus* and *Gutierrezia*. (***Perdita***)  
Taxonomy: Timberlake, 1960, *loc. cit. supra*, p. 92. ♀.
- \****physalidis*** Timberlake. Calif. (Riverside Co.). On flowers of *Physalis*. (***Perdita***)  
***Perdita physalidis*** Timberlake, 1958. Calif. Univ. Pubs. Ent. 14: 374, figs. 454, 455, 511. ♀, ♂.
- \****picturata*** Timberlake. Tex. (Victoria and Aransas Counties). (***Perdita***)  
***Perdita picturata*** Timberlake, 1960. Calif. Univ. Pubs. Ent. 17: 50, figs. 560, 561, 682. ♀, ♂.
- \****placida*** Timberlake. Calif. (Inyo Co.). (***Perdita***)  
***Perdita placida*** Timberlake, 1958. Calif. Univ. Pubs. Ent. 14: 339. ♀.
- \****plucheae*** Timberlake. Calif. (Colorado Desert), Ariz. On flowers of *Pluchea* and *Tamarix*. (***Perdita***)  
***Perdita plucheae*** Timberlake, 1960. Calif. Univ. Pubs. Ent. 17: 69, figs. 584, 585, 694. ♀, ♂.
- \****polita*** Timberlake. Calif. On flowers of *Hemizonia pungens*. (***Perdita***)  
***Perdita polita*** Timberlake, 1958. Calif. Univ. Pubs. Ent. 14: 332, figs. 400, 401, 484. ♀, ♂.
- polygonellae*** Timberlake. (***Perdita***)  
Taxonomy: Timberlake, 1960, *loc. cit. supra*, p. 40, figs. 552, 553, 678. ♂.
- \****polytropica obsoleta*** Timberlake. Ariz. On flowers of *Carnegiea* and *Echinocactus*. (***Perdita***)  
***Perdita polytropica obsoleta*** Timberlake, 1962. Calif. Univ. Pubs. Ent. 28: 59. ♀, ♂.
- \****polytropica polytropica*** Timberlake. Southern Calif., Ariz.; Mexico (Baja California). Visits many flowers. (***Perdita***)  
***Perdita polytropica polytropica*** Timberlake, 1962. Calif. Univ. Pubs. Ent. 28: 57, figs. 795, 796, 876. ♀, ♂.
- portalis*** Timberlake. N. Mex. (***Macroteropsis***).
- \****primula*** Timberlake. Calif. (Indio). On flowers of *Melilotus*. (***Perdita***)  
***Perdita primula*** Timberlake, 1958. Calif. Univ. Pubs. Ent. 14: 347, figs. 420, 421, 494. ♂.
- \****prionopsidis*** Timberlake. Kans. (Reno and Montgomery Counties). On flowers of *Aplopappus* (***Prionopsis***), *Boltonia*, *Helianthus*, *Heterotheca* and *Isopappus*. (***Perdita***)  
***Perdita prionopsidis*** Timberlake, 1960. Calif. Univ. Pubs. Ent. 17: 104, figs. 632, 633, 718. ♀, ♂.
- \****proxima*** Timberlake. Calif. (Mohave Desert). On flowers of *Aplopappus*, *Chrysothamnus*, *Cleomella*, *Solidago*. (***Perdita***)  
***Perdita proxima*** Timberlake, 1958. Calif. Univ. Pubs. Ent. 14: 322, figs. 380, 381, 476. ♀, ♂.
- punctata*** Cockerell. Syn. of ***halictoides*** Smith.
- punctifera*** Cockerell. Ariz., southern Calif. Uses pollen of *Mentzelia pumila*. (***Perdita***)  
Taxonomy: Timberlake, 1962, *loc. cit. supra*, p. 26, figs. 747, 748, 852. ♀, ♂.
- \****punctifrons*** Timberlake. Calif. (Los Angeles and San Bernardino Counties). On flowers of *Lessingia*. (***Perdita***)  
***Perdita punctifrons*** Timberlake, 1958. Calif. Univ. Pubs. Ent. 14: 350, figs. 426, 427, 497. ♀, ♂.

- \***punctulata** Timberlake. Southern Calif., Ariz.; Mexico (Baja California, Sonora). On flowers of *Baccharis*, *Larrea*, *Melilotus*, *Prosopis*. (**Perdita**)
- Perdita punctulata** Timberlake, 1958. Calif. Univ. Pubs. Ent. 14: 362, figs. 440, 441, 504. ♂, ♀.
- purpurascens** Timberlake. On flowers of *Aster*, *Brazoria*, *Gaillardia*, *Monarda*. (**Cockerellia**)
- Taxonomy: Timberlake, 1958, *loc. cit. supra*, p. 382. ♀.
- rectangulata** Cockerell. Colo., Idaho. On flowers of *Gutierrezia* and *Solidago*. (**Perdita**)
- Taxonomy: Timberlake, 1960, *loc. cit. supra*, p. 82, figs. 602, 603, 703. ♀, ♂.
- rehni rehni** Cockerell, changed status. N. Mex., western Tex.; Mexico (Chihuahua). On flowers of *Nolina*. (**Perdita**)
- Perdita rehni** Cockerell. Reduced to subsp. rank (*teste* Timberlake, 1962, *loc. cit. supra*, p. 50, figs. 789, 790, 873. ♀, ♂. Another subsp. occurs in Coahuila, Mexico.
- \***retusa** Timberlake. Ariz., Calif. On flowers of *Chrysothamnus*. (**Perdita**)
- Perdita retusa** Timberlake, 1960. Calif. Univ. Pubs. Ent. 17: 86, figs. 608, 609, 706. ♀, ♂.
- rhodura** Cockerell. Ariz., N. Mex., Nebr. On flowers of *Aplopappus* (?), *Gutierrezia*, *Zinnia*. (**Perdita**)
- Taxonomy: Timberlake, 1960, *loc. cit. supra*, p. 52, figs. 564, 565, 684. ♀, ♂.
- rhois reducta** Cockerell. Calif. On many flowers. (**Perdita**)
- Taxonomy: Timberlake, 1962, *loc. cit. supra*, p. 54. ♀, ♂.
- rhois rhois** Cockerell. Southern Calif.; Mexico (Baja California). Visits many flowers. (**Perdita**)
- Taxonomy: Timberlake, 1962, *loc. cit. supra*, p. 53, figs. 791, 792, 874. ♀, ♂.
- \***rivalis** Timberlake. Calif. On flowers of *Aster*, *Erigeron*. (**Perdita**)
- Perdita rivalis** Timberlake, 1958. Calif. Univ. Pubs. Ent. 14: 349, figs. 424, 425, 496. ♀, ♂.
- ruficauda ornata** Timberlake. A subsp. of *trisignata* Cockerell.
- ruficauda ruficauda** Cockerell. Syn. of *trisignata trisignata* Cockerell.
- \***scitula antiochensis** Timberlake. Calif. (Antioch, Oakley). On flowers of *Eriogonum*, *Gutierrezia*, *Heterotheca*, and *Lessingia*. (**Perdita**)
- Perdita scitula antiochensis** Timberlake, 1960. Calif. Univ. Pubs. Ent. 17: 80, figs. 598, 599, 701. ♀, ♂.
- \***scitula scitula** Timberlake. Calif. (Inyo Co.). On flowers of *Chrysothamnus nauseosus*. (**Perdita**)
- Perdita scitula scitula** Timberlake, 1960. Calif. Univ. Pubs. Ent. 17: 79. ♀, ♂.
- \***scotti** Timberlake. Calif. (Kern Co.). (**Perdita**)
- Perdita scotti** Timberlake, 1958. Calif. Univ. Pubs. Ent. 14: 338, figs. 412, 413, 490. ♀, ♂.
- \***scutellaris** Timberlake. Southern Calif. On flowers of *Coldenia* and *Eriogonum*. (**Heteroperdita**)
- Perdita scutellaris** Timberlake, 1962. Calif. Univ. Pubs. Ent. 28: 89, figs. 829, 830, 893, text fig. B. ♀, ♂.
- semicrocea** Cockerell. Ariz. (**Perdita**)
- Taxonomy: Timberlake, 1962, *loc. cit. supra*, p. 35, figs. 761, 762, 859. ♀, ♂.
- \***semilutea** Timberlake. Calif. (Riverside Co.). On flowers of *Eriogonum thomasi*. (**Perdita**)
- Perdita semilutea** Timberlake, 1962. Calif. Univ. Pubs. Ent. 28: 81, figs. 819, 820, 888. ♂.

- senecionis** Cockerell. N. Mex. (Las Cruces). On flowers of *Senecio*. (*Perdita*)  
Taxonomy: Timberlake, 1960, *loc. cit. supra*, p. 100. ♀.
- \*separata** Timberlake. Tex. (Zapata Co.). (*Perdita*)  
*Perdita separata* Timberlake, 1960. Calif. Univ. Pubs. Ent. 17: 106. ♀.
- sexmaculata sexmaculata** Cockerell, changed status. Ariz., N. Mex., Tex., Kans., Colo.; Mexico (Chihuahua, Durango, Hidalgo). Visiting many flowers. (*Perdita*)  
Taxonomy: Timberlake, 1958, *loc. cit. supra*, p. 367, figs. 444, 445, 506. ♀, ♂.—Timberlake, 1962, *loc. cit. supra*, p. 101 (reduced to subsp. rank; another subsp. occurs in Baja California).
- \*similis pascoensis** Timberlake. Wash. (Pasco). (*Perdita*)  
*Perdita similis pascoensis* Timberlake, 1958. Calif. Univ. Pubs. Ent. 14: 324, figs. 384, 385. ♂, ♀.
- \*similis similis** Timberlake. N. Mex. and Ariz. to Utah, Wyo. and Idaho. On flowers of *Aplopappus*, *Chrysothamnus*, *Erigeron*, *Gutierrezia*. (*Perdita*)  
*Perdita similis similis* Timberlake, 1958. Calif. Univ. Pubs. Ent. 14: 323, figs. 382, 383, 477. ♀, ♂.
- \*snellingi** Timberlake. Calif. (Kern and Inyo Counties). On flowers of *Chrysothamnus*, *Euphorbia*, *Gutierrezia*. (*Perdita*)  
*Perdita snellingi* Timberlake, 1962. Calif. Univ. Pubs. Ent. 28: 46, figs. 781, 782, 869. ♀, ♂.
- snowii** Cockerell. Colo. On flowers of *Grindelia* and *Aster*. (*Perdita*)  
Taxonomy: Timberlake, 1960, *loc. cit. supra*, p. 83, figs. 604, 605, 704. ♀, ♂.
- \*soluta** Timberlake. Calif. (Los Angeles Co.). On flowers of *Malacothrix*. (*Pygoperdita*)  
*Perdita soluta* Timberlake, 1958. Calif. Univ. Pubs. Ent. 14: 394, fig. 520. ♂.
- stephanomeriae** Timberlake. On flowers of *Dalea*. (*Allomacrotera*, transf. from *Procockerellia*)  
Taxonomy: Timberlake, 1960, *loc. cit. supra*, p. 131, figs. 658, 659, 731. ♂.
- \*stepheni** Timberlake. On flowers of *Monarda*. (*Perdita*)  
*Perdita stepheni* Timberlake, 1960. Calif. Univ. Pubs. Ent. 17: 29, figs. 536, 537, 669. ♂.
- stottleri flavida** Swenk and Cockerell. Nebr. to Oreg., Colo. On flowers of *Chrysothamnus*. (*Perdita*)
- stottleri stottleri** Cockerell. Delete Colo. from range. (*Perdita*)
- subfasciata** Cockerell. Ariz., Nev., Utah. On flowers of *Gutierrezia*. (*Perdita*)  
Taxonomy: Timberlake, 1962, *loc. cit. supra*, p. 45, figs. 779, 780, 868. ♀, ♂.
- swenki** Crawford. Mich., Ill., Wis., Minn., N. Dak., Nebr. On flowers of *Grindelia*, *Helianthus*, *Liatris*, and *Solidago*. (*Perdita*)  
Taxonomy: Timberlake, 1960, *loc. cit. supra*, p. 104, figs. 630, 631, 717. ♀, ♂.
- \*swezeyi** Timberlake. Calif., Nev. On flowers of *Erigeron*. (*Perdita*)  
*Perdita swezeyi* Timberlake, 1958. Calif. Univ. Pubs. Ent. 14: 348, figs. 422, 423, 495. ♀, ♂.
- \*texana ablusa** Timberlake. N. Mex., Tex. On flowers of *Opuntia*. (*Macrotera*)  
*Perdita texana ablusa* Timberlake, 1958. Calif. Univ. Pubs. Ent. 14: 376. ♀, ♂.
- texana texana** (Cresson), changed status. Delete N. Mex. from range (Sup. 1). (*Macrotera*)

- Perdita texana* (Cresson). Reduced to subsp. rank (*teste* Timberlake, 1958, *loc. cit. supra*, p. 376).
- \**thelypodii* Timberlake. Calif. (Inyo and Los Angeles Counties). On flowers of *Cleomella*, *Thelypodium*. (*Perdita*)  
*Perdita thelypodii* Timberlake, 1958. Calif. Univ. Pubs. Ent. 14: 354, figs. 432, 433, 500. ♀, ♂.
- \**thermophila thermophila* Timberlake. Southern Calif. On flowers of *Eriogonum*. (*Perdita*)  
*Perdita thermophila thermophila* Timberlake, 1962. Calif. Univ. Pubs. Ent. 28: 77, figs. 815, 816, 886. ♀, ♂.
- \**thermophila trilobata* Timberlake. Ariz., southern Calif. On flowers of *Eriogonum*. (*Perdita*)  
*Perdita thermophila trilobata* Timberlake, 1962. Calif. Univ. Pubs. Ent. 28: 78. ♀, ♂.
- timberlakei* Cockerell. Southern Calif. Collects pollen of *Eriogonum*. (*Perdita*)  
 Taxonomy: Timberlake, 1962, *loc. cit. supra*, p. 70, figs. 807, 808, 882. ♀.
- townsendi* Cockerell. (*Perdita*)  
 Taxonomy: Timberlake, 1958, *loc. cit. supra*, p. 320, figs. 376, 377, 474. ♂.
- \**translineata* Timberlake. Tex. (Van Zandt Co.). On flowers of *Eriogonum multiflorum*. (*Perdita*)  
*Perdita translineata* Timberlake, 1960. Calif. Univ. Pubs. Ent. 17: 93, figs. 618, 619, 711. ♂.
- tridentata* Stevens. N. Dak., Nebr., Kans. On flowers of *Aplopappus* and *Helianthus*. (*Perdita*)  
 Taxonomy: Timberlake, 1960, *loc. cit. supra*, p. 118, figs. 650, 651, 727. ♀, ♂.
- \**trifida* Timberlake. Calif. (Mohave Desert). On flowers of *Aplopappus acradenius*. (*Perdita*)  
*Perdita trifida* Timberlake, 1960. Calif. Univ. Pubs. Ent. 17: 37, figs. 546, 547, 675. ♂.
- \**trimaculata* Timberlake. Southern Calif., Ariz. On flowers of *Chrysothamnus* and *Gutierrezia*. (*Perdita*)  
*Perdita trimaculata* Timberlake, 1960. Calif. Univ. Pubs. Ent. 17: 62, figs. 574, 575, 689. ♀, ♂.
- trisignata ornata* Timberlake. (*Hesperoperdita*)  
*Perdita ruficauda ornata* Timberlake. Changed to a subspecies of *trisignata* by Timberlake's synonymy of *ruficauda ruficauda* under *trisignata trisignata* (1960, *loc. cit. supra*, p. 127).
- trisignata trisignata* Cockerell, changed status. (*Hesperoperdita*)  
*Perdita trisignata* Cockerell. Reduced to subsp. rank (*teste* Timberlake, 1960, *loc. cit. supra*, p. 127).  
*Perdita ruficauda ruficauda* Cockerell (syn. by Timberlake, 1960, *loc. cit. supra*, p. 127).
- \**valida* Timberlake. N. Mex. (Mesilla). (*Perdita*)  
*Perdita valida* Timberlake, 1962. Calif. Univ. Pubs. Ent. 28: 106. ♀.
- \**variegata pura* Timberlake. Tex., Kans. At flowers of *Monarda*. (*Perdita*)  
*Perdita variegata pura* Timberlake, 1960. Calif. Univ. Pubs. Ent. 17: 31. ♀, ♂.
- \**variegata variegata* Timberlake. Kans. On flowers of *Monarda*. (*Perdita*)  
*Perdita variegata variegata* Timberlake, 1960. Calif. Univ. Pubs. Ent. 17: 30, figs. 538, 539, 670. ♀, ♂.
- \**varleyi niveipennis* Timberlake. Calif. (San Benito Co.). Collects pollen of *Eriogonum*. (*Perdita*)  
*Perdita varleyi niveipennis* Timberlake, 1962. Calif. Univ. Pubs. Ent. 28: 86. ♀, ♂.

- \***varleyi varleyi** Timberlake. Southern Calif. Collects pollen of *Eriogonum*. (*Perdita*)  
*Perdita varleyi varleyi* Timberlake, 1962. Calif. Univ. Pubs. Ent. 28: 85, figs. 825, 826, 891, 904. ♂, ♀.
- \***versuta** Timberlake. Tex. (Kingsville). (*Perdita*)  
*Perdita versuta* Timberlake, 1962. Calif. Univ. Pubs. Ent. 28: 105, figs. 843, 844, 900. ♂.
- \***vestita** Timberlake. Utah (Arches Natl. Mon.). (*Perdita*)  
*Perdita vestita* Timberlake, 1958. Calif. Univ. Pubs. Ent. 14: 316, figs. 370, 371, 471. ♀, ♂.
- \***vicina** Timberlake. Nev. (Charleston Mts., Clark Co.). On flowers of *Fallugia paradoxa*. (*Perdita*)  
*Perdita vicina* Timberlake, 1962. Calif. Univ. Pubs. Ent. 28: 31, figs. 753, 754, 855. ♂.
- \***viridinotata** Timberlake. N. Mex. (Alamogordo). (*Perdita*)  
*Perdita viridinotata* Timberlake, 1962. Calif. Univ. Pubs. Ent. 28: 16, figs. 735, 736, 846. ♀, ♂.
- \***wasbaueri** Timberlake. Calif. (Colorado Desert). On flowers of *Coldenia*. (*Heteroperdita*)  
*Perdita wasbaueri* Timberlake, 1960. Calif. Univ. Pubs. Ent. 17: 126, figs. 656, 657, 730. ♀, ♂.
- wheeleri** Timberlake. (*Perdita*)  
 Taxonomy: Timberlake, 1962, *loc. cit. supra*, p. 32, figs. 755, 756, 856. ♂.
- wilmattae miricornis** Cockerell, changed status. Colo., Wyo., Utah, Ariz. On flowers of *Engelmannia*, *Stanleya*. (*Perdita*)  
*Perdita miricornis* Cockerell. Reduced to subsp. rank (*teste* Timberlake, 1958, *loc. cit. supra*, p. 360).
- wilmattae wilmattae** Cockerell, changed status. Colo., Utah, Nev. On flowers of *Cleome*. (*Perdita*)  
*Perdita wilmattae* Cockerell. Reduced to subsp. rank (*teste* Timberlake, 1958, *loc. cit. supra*, p. 359, figs. 436, 437, 502).
- wootonae** Cockerell. N. Mex., Colo., Kans., Nebr. Visits flowers of *Mentzelia*. (*Perdita*)  
 Taxonomy: Timberlake, 1962, *loc. cit. supra*, p. 15, figs. 733, 734, 845. ♀, ♂.
- \***xanthochroa** Timberlake. Colo., Utah, Idaho. At flowers of *Sphaeralcea* and *Stanleya*. (*Perdita*)  
*Perdita xanthochroa* Timberlake, 1960. Calif. Univ. Pubs. Ent. 17: 24, figs. 530, 531, 666. ♀, ♂.
- \***xanthodes** Timberlake. Calif. (Mohave Desert). At flowers of *Aplopappus cooperi*. (*Perdita*)  
*Perdita xanthodes* Timberlake, 1960. Calif. Univ. Pubs. Ent. 17: 24, figs. 528, 529, 665. ♀, ♂.
- \***xerophila discrepans** Timberlake. Nev. Collects pollen of *Eriogonum*. (*Perdita*)  
*Perdita xerophila discrepans* Timberlake, 1962. Calif. Univ. Pubs. Ent. 28: 84, figs. 823, 824, 890. ♀, ♂.
- \***xerophila fuscicornis** Timberlake. Calif. (Inyo Co.). Collects pollen of *Eriogonum*. (*Perdita*)  
*Perdita xerophila fuscicornis* Timberlake, 1962. Calif. Univ. Pubs. Ent. 28: 84, fig. 903. ♀, ♂.
- \***xerophila xerophila** Timberlake. Southern Calif., Ariz. Collects pollen of *Eriogonum*. (*Perdita*)  
*Perdita xerophila xerophila* Timberlake, 1962. Calif. Univ. Pubs. Ent. 28: 82, fig. 902. ♀, ♂.
- \***yosemitensis** Timberlake. Calif. (Mariposa, Tulare, Fresno, and ? Placer Counties). On flowers of *Eriogonum*. (*Perdita*)

- Perdita yosemitensis* Timberlake, 1962. Calif. Univ. Pubs. Ent. 28: 63, figs. 801, 802, 879. ♂, ♀.
- \**zebrata flavens* Timberlake. Nev., Oreg., Idaho, Wyo., Utah, Colo. On flowers of *Cleome*, *Engelmannia*, *Phacelia*, *Salsola*. (*Perdita*)
- Perdita zebrata flavens* Timberlake, 1958. Calif. Univ. Pubs. Ent. 14: 357. ♀, ♂.
- zebrata zebrata* Cresson, changed status. N. Mex., Colo., Nebr., Mont., Utah. Taken on flowers of *Aplopappus*, *Cleome*, *Helianthus*, *Nolina*. (*Perdita*)
- Perdita zebrata* Cresson. Reduced to subsp. rank (*teste* Timberlake, 1958, *loc. cit. supra*, p. 356, figs. 434, 435, 501).
- \**zonalis aequalis* Timberlake. Oreg., northern Calif., ? Nev., ? Mont. On flowers of *Chrysothamnus*, *Solidago*. (*Perdita*)
- Perdita zonalis aequalis* Timberlake, 1958. Calif. Univ. Pubs. Ent. 14: 344. ♀, ♂.
- \**zonalis bernardina* Timberlake. Calif. (Bear Valley and Santa Ana Canyon in San Bernardino Mts.). On flowers of *Aster*, *Chrysothamnus*, *Eriogonum*, *Gutierrezia*, *Solidago*. (*Perdita*)
- Perdita zonalis bernardina* Timberlake, 1958. Calif. Univ. Pubs. Ent. 14: 345, figs. 416, 417, 492. ♀, ♂.
- \**zonalis monticola* Timberlake. Calif. (Sierra, Shasta, Nevada, Plumas and Placer Counties). On flowers of *Chrysothamnus*, *Solidago*. (*Perdita*)
- Perdita zonalis monticola* Timberlake, 1958. Calif. Univ. Pubs. Ent. 14: 345. ♀, ♂.
- \**zonalis pallescens* Timberlake. Calif. (Morongo in San Bernardino Co.). On flowers of *Aplopappus*, *Gutierrezia*. (*Perdita*)
- Perdita zonalis pallescens* Timberlake, 1958. Calif. Univ. Pubs. Ent. 14: 344. ♀, ♂.
- zonalis zonalis* Cresson, changed status. Calif. (Riverside and Kern Counties). On flowers of *Eriogonum*, *Gutierrezia*, *Lepidospartum*. (*Perdita*)
- Perdita zonalis* Cresson. Reduced to subsp. rank (*teste* Timberlake, 1958, *loc. cit. supra*, p. 343).

Genus PANURGINUS Nylander, pp. 1097–1098

- atramontensis* Crawford. Md. to Ga., Miss. Taken on flowers of *Polycodium*.
- melanocephalus* (Cockerell). Collects pollen of *Ranunculus*.  
Biology: Linsley and MacSwain, 1959. Calif. Univ. Pubs. Ent. 16: 20–21, pl. 6.

PSEUDOPANURGUS subgenus PSEUDOPANURGUS Cockerell, p. 1098

- albitarsis* (Cresson). Ill. to Conn., south to Tex. and Ga. Visits a number of flowers. Transf. from subg. *Heterosarus*, p. 1099 (*teste* Mitchell, 1960, *loc. cit. supra*, p. 266).
- Pseudopanurgus (Heterosarus) picipes* (Cresson) (syn. by Mitchell, 1960, *loc. cit. supra*, p. 266).
- andrenoides* (Smith). Transf. to subg. *Heterosarus*, p. 1099.
- \**helianthi* Mitchell. Ind. (Tippecanoe Co.). Taken on flowers of *Helianthus annuus*.  
*Pseudopanurgus (Pseudopanurgus) helianthi* Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 267. ♀.
- labrosus* (Robertson). Transf. from subg. *Heterosarus*, p. 1100 (*teste* Mitchell, 1960, *loc. cit. supra*, p. 268).
- rugosus* (Robertson). Md. to Ga., west to Ill., Kans., Tex. Taken on flowers of *Bidens*, *Helianthus*, *Rudbeckia* and *Silphium*.



**PSEUDOPANURGUS** subgenus **HETEROSARUS** Robertson, pp. 1098-1101

Taxonomy: Timberlake, 1964. Amer. Mus. Novitates 2185, pp. 2-5 (key to spp.).

**abdominalis tricolor** (Cockerell). N. J. and Pa. to Ga. Taken on flowers of *Monarda punctata*.

**albitarsis** (Cresson). Transf. to subg. **Pseudopanurgus**, p. 1098.

**andrenoides** (Smith). Minn. to N. B., south to N. C. Taken on flowers of *Aster*, *Rudbeckia*, and *Solidago*. Transf. from subg. **Pseudopanurgus**, p. 1098 (*teste* Mitchell, 1960, *loc. cit. supra*, p. 272).

**Pseudopanurgus (Heterosarus) asteris** (Robertson) (syn. by Mitchell, 1960, *loc. cit. supra*, p. 272).

\***arizonicus** Timberlake. Ariz., N. Mex. On flowers of *Eriogonum*.

**Pseudopanurgus arizonicus** Timberlake, 1964. Amer. Mus. Novitates 2185, p. 23. ♂, ♀.

**borealis** (Cockerell). Syn. of **stevensi** Crawford.

**compositarum** (Robertson). Md. to Ga., west to Ill. Taken on flowers of *Aster*, *Bidens*, *Boltonia*, *Polygonum*, *Rudbeckia*, and *Solidago*.

**Pseudopanurgus (Heterosarus) illinoiensis** (Cresson) of Catalog, in part. **P. compositarum** not a syn. (*teste* Mitchell, 1960, *loc. cit. supra*, p. 273).

\***dawsoni** Timberlake. Colo., N. Mex. On flowers of cruciferous plant.

**Pseudopanurgus dawsoni** Timberlake, 1964. Amer. Mus. Novitates 2185, p. 10. ♀, ♂.

**flavotinctus** (Cockerell). Ariz. On flowers of *Bigelovia* and *Sphaeralcea*.

Taxonomy: Timberlake, 1964. Amer. Mus. Novitates 2185, pp. 20-23 (♂, ♀.).

**gerardiae** Crawford. Syn. of **parvus** (Robertson).

**illinoiensis** (Cresson). Que. to Ill., south to Fla. and Tex. Taken on flowers of *Chrysanthemum leucanthemum*. Remove **compositarum** (Robertson) from syn. (a valid sp.).

**labrosiformis labrosiformis** (Robertson). N. C., Ga., Ill. Taken on a number of flowers.

**labrosus** (Robertson). Transf. to subg. **Pseudopanurgus**, p. 1098.

\***nanulus** Timberlake. N. Mex., Ariz.; Mexico (Chihuahua, Sonora, Baja California). On flowers of *Euphorbia*, *Physalis*, and *Wislizenia*.

**Pseudopanurgus nanulus** Timberlake, 1964. Amer. Mus. Novitates 2185, p. 5. ♀, ♂.

**nebrascensis muesebecki** Michener. N. C. to Fla., Miss. Taken on flowers of *Aster*, *Chrysopsis*, and *Haplopappus*.

**nebrascensis nebrascensis** (Crawford). Colo. and Alta., east to Maine and N. J. Taken on flowers of *Aster* and *Solidago*.

**neomexicanus** (Cockerell). Ariz. On many flowers.

Taxonomy: Timberlake, 1964. Amer. Mus. Novitates 2185, pp. 8-10 (♀, ♂).

\***opacicollis** Timberlake. Ariz. (Prescott). On flowers of *Eriogonum*.

**Pseudopanurgus opacicollis** Timberlake, 1964. Amer. Mus. Novitates 2185, p. 15. ♀.

**opaculus** (Cockerell).

Taxonomy: Timberlake, 1964. Amer. Mus. Novitates 2185, pp. 18-20 (♀, ♂).

**parvus** (Robertson). N. C. to Ga., Miss., Mo., Ill. Taken on a number of flowers.

**Pseudopanurgus (Heterosarus) pauper** (Cresson) of Catalog, in part. **P. parvus** not a syn. (*teste* Mitchell, 1960, *loc. cit. supra*, p. 278).

- Pseudopanurgus (Heterosarus) gerardiae*** Crawford (syn. by Mitchell, 1960, *loc. cit. supra*, p. 278).
- pauper** (Cresson). Mo. to New England States, south to Ga. Taken on flowers of *Ceanothus* and *Rubus*. Remove **parvus** (Robertson) from syn. (a valid sp.).
- pernitens** (Cockerell).  
Taxonomy: Timberlake, 1964. Amer. Mus. Novitates 2185, pp. 14-15. (♀).
- picipes** (Cresson). Transf. to subg. **Pseudopanurgus**, p. 1098 as a syn. of **albitarsis** (Cresson).
- solidaginis** (Robertson). N. H., Ill., Miss.
- stevensi** Crawford. Colo.
- Pseudopanurgus (Heterosarus) borealis*** (Cockerell) (syn. by Timberlake, 1964, Amer. Mus. Novitates 2185, p. 25).
- virginicus** (Cockerell). Ga. to Md., W. Va. Taken on flowers of *Ceanothus* and *Houstonia*.

**Genus NOMADOPSIS Ashmead, pp. 1101-1102**

- Nomadopsis*** subg. ***Macronomadopsis*** Rozen, 1958. Calif. Univ. Pubs. Ent. 15: 93.  
Type: ***Nomadopsis micheneri*** Rozen. Orig. desig.
- Nomadopsis*** subg. ***Micronomadopsis*** Rozen, 1958. Calif. Univ. Pubs. Ent. 15: 107.  
Type: ***Nomadopsis fracta*** Rozen. Orig. desig.
- Revision: Rozen, 1958. Calif. Univ. Pubs. Ent. 15: 1-202, 218 figs., 17 maps.
- anthidia anthidia** (Fowler), changed status. Calif. (west slope of Sierra Nevada, northern Coast Ranges, Sacramento Valley, part of San Joaquin Valley). On flowers of *Trifolium*. (***Macronomadopsis***)
- Nomadopsis anthidius*** (Fowler). Reduced to subsp. rank (*teste* Rozen, 1958, *loc. cit. supra*, p. 101, figs. 8, 9, 56, 63, 119-123).
- \***anthidia lutea** Rozen. Calif. (east of Sierra and southern Calif.), Oreg., Idaho, Utah. On flowers of *Trifolium*. (***Macronomadopsis***)
- Nomadopsis anthidius lutea*** Rozen, 1958. Calif. Univ. Pubs. Ent. 15: 102, figs. 2, 3, 10, 11, 34, 35, 57, 124-128. ♂, ♀.
- australior** (Cockerell). S. Dak., Nebr., Colo., Utah, N. Mex., Tex., Ariz.; Mexico (Chihuahua). On flowers of *Dithyrea*, *Lepidium*. (***Micronomadopsis***)  
Taxonomy: Rozen, 1958, *loc. cit. supra*, p. 149, figs. 71, 182-185, map 15. ♂, ♀.
- barbata** Timberlake. (***Micronomadopsis***)
- \***barri** Rozen. Idaho, Oreg. Taken on flowers of *Melilotus*. (***Macronomadopsis***)
- Nomadopsis (Macronomadopsis) barri*** Rozen, 1959. Ent. Soc. Wash. Proc. 61: 256, figs. 1, 4. ♂, ♀.
- \***beamerorum** Rozen. Tex. (Reeves and Pecos Counties). On flowers of *Prosopis*. (***Micronomadopsis***)
- Nomadopsis (Micronomadopsis) beamerorum*** Rozen, 1963. Amer. Mus. Novitates 2142: 13, figs. 12-15. ♂, ♀.
- \***boharti** Rozen. Calif. (Napa Co.). (*subgenus uncertain*)
- Nomadopsis boharti*** Rozen, 1958. Calif. Univ. Pubs. Ent. 15: 171, figs. 204-208, map 7. ♂, ♀.
- callosa** Timberlake. Mexico (Baja California). (***Micronomadopsis***)  
Taxonomy: Rozen, 1958, *loc. cit. supra*, p. 140, figs. 174-177, map 8. ♂, ♀.
- \***cazieri** Rozen. Calif. (San Jacinto Mts. and San Diego County). (***Micronomadopsis***)

- Nomadopsis cazieri* Rozen, 1958. Calif. Univ. Pubs. Ent. 15: 135, figs. 165-169, map 14. ♂, ♀.
- cincta cincta* (Cresson), changed status. Calif. (east side of Sierra Nevada, Tulare and Trinity Counties). On flowers of *Calochortus*. (*Nomadopsis*)
- Nomadopsis cincta* (Cresson). Reduced to subsp. rank (*teste* Rozen, 1958, *loc. cit. supra*, p. 83).
- \**cincta hurdi* Rozen. Calif. (Sacramento Co.). On flowers of *Calochortus*. (*Nomadopsis*)
- Nomadopsis cincta hurdi* Rozen, 1958. Calif. Univ. Pubs. Ent. 15: 85. ♂, ♀.
- comptula* (Cockerell). Calif. (Tulare, Inyo, and San Bernardino Counties). On flowers of *Potentilla*. (*Nomadopsis*)
- Nomadopsis edwardsii bernardina* (Michener) (syn. by Rozen, 1958, *loc. cit. supra*, p. 75).
- Nomadopsis edwardsii media* (Michener) (syn. by Rozen, 1958, *loc. cit. supra*, p. 75).
- edwardsii* (Cresson), changed status. Calif., Oreg., Wash., Idaho. On flowers of *Calochortus*, *Potentilla*. (*Nomadopsis*)
- Nomadopsis edwardsii edwardsii* (Cresson). Raised to sp. rank (*teste* Rozen, 1958, *loc. cit. supra*, p. 79).
- Nomadopsis triangulifera* (Cockerell) (syn. by Rozen, 1958, *loc. cit. supra*, p. 79).
- edwardsii bernardina* (Michener). Syn. of *comptula* (Cockerell).
- edwardsii media* (Michener). Syn. of *comptula* (Cockerell).
- euphorbiae* (Cockerell). Syn. of *helianthi* (Swenk and Cockerell).
- \**filiorum* Rozen. Calif. (Mono Co.). (*Macronomadopsis*)
- Nomadopsis (Macronomadopsis) filiorum* Rozen, 1963. Amer. Mus. Novitates 2142: 6, figs. 3-6. ♂, ♀.
- Biology: Rozen, 1963, *loc. cit. supra*, pp. 3-6.
- foleyi* Timberlake. (*Micronomadopsis*)
- fracta* Rozen. Calif. (widely distributed at lower altitudes). (*Micronomadopsis*)
- helianthi* (Swenk and Cockerell). Calif., Ariz., N. Mex., Nebr.; Mexico (Baja California). (*Micronomadopsis*)
- Nomadopsis euphorbiae* (Cockerell) (syn. by Rozen, 1963. N. Y. Ent. Soc. Jour. 71: 142).
- Taxonomy: Rozen, 1958, *loc. cit. supra*, p. 129, figs. 16, 17, 40, 41, 61, 65, 157-160, map 13. ♂, ♀.
- hesperia equina* (Cockerell). Calif. (Great Valley), Nev. (Va. City). (*Micronomadopsis*)
- Taxonomy: Rozen, 1958, *loc. cit. supra*, p. 148. ♂, ♀.
- hesperia hesperia* (Swenk and Cockerell). (*Micronomadopsis*)
- Taxonomy: Rozen, 1958, *loc. cit. supra*, p. 147. ♂, ♀.
- larreae* Timberlake. (*Micronomadopsis*)
- Taxonomy: Rozen, 1958, *loc. cit. supra*, p. 126, figs. 153-156, map 12. ♂, ♀.
- lawae* (Michener). A subsp. of *scitula* (Cresson).
- \**linsleyi* Rozen. Calif. On flowers of *Eriodictyon*. (*Nomadopsis*)
- Nomadopsis linsleyi* Rozen, 1958. Calif. Univ. Pubs. Ent. 15: 85, figs. 6, 7, 30, 31, 53, 99-103, map 5. ♂, ♀.
- \**macswaini* Rozen. Ariz. (Cochise Co.). On flowers of *Wislizenia*. (*Micronomadopsis*)
- Nomadopsis macswaini* Rozen, 1958. Calif. Univ. Pubs. Ent. 15: 152, figs. 195-198, map 16. ♂, ♀.

- meliloti** (Cockerell). Tex., Ariz. On flowers of *Parosela*. (*Micronomadopsis*)  
Taxonomy: Rozen, 1958, *loc. cit. supra*, p. 138, figs. 170-173, map 14. ♂, ♀.
- mellipes** Timberlake. (*Micronomadopsis*)
- \***micheneri** Rozen. Calif. east of Sierra. On flowers of *Trifolium*. (*Macronomadopsis*)  
*Nomadopsis micheneri* Rozen, 1958. Calif. Univ. Pubs. Ent. 15: 95, figs. 12, 13, 32, 33, 55, 67, 109-113, map 8. ♂, ♀.
- nigromaculata** Timberlake. (*Micronomadopsis*)
- obscorella** (Cresson). Calif., Oreg., Ariz. Visiting many flowers, but *Eschscholtzia* only for pollen. (*Nomadopsis*)  
Taxonomy: Rozen, 1958, *loc. cit. supra*, p. 91, figs. 104-108, map 7. ♂, ♀.
- personata** (Cockerell). Wash., Oreg., Idaho, Wyo. On flowers of *Cleome*. (*Micronomadopsis*)  
Taxonomy: Rozen, 1958, *loc. cit. supra*, p. 165, figs. 186-189, map 15. ♂, ♀.
- phaceliae** Timberlake. Calif. (east side of Sierra Nevada and Mojave Desert). (*Micronomadopsis*)  
Taxonomy: Rozen, 1958, *loc. cit. supra*, p. 117, figs. 137-140, map 11. ♂, ♀.
- puellae** (Cockerell). Tex., N. Mex., Ariz., Calif., Idaho. On flowers of *Mala-cothrix*. (*Nomadopsis*)  
Taxonomy: Rozen, 1958, *loc. cit. supra*, p. 89, figs. 89-93, map 6. ♂, ♀.
- scitula lawae** (Michener), changed status. On flowers of *Cleomella*, *Thelypodium*. (*Micronomadopsis*)  
*Nomadopsis lawae* (Michener). Reduced to subsp. rank (*teste* Rozen, 1958, *loc. cit. supra*, p. 159).
- scitula scitula** (Cresson), changed status. Wyo., Idaho, Utah, Colo., N. Mex. On flowers of *Cleome*, *Sisymbrium*. (*Micronomadopsis*)  
*Nomadopsis scitula* (Cresson). Reduced to subsp. rank (*teste* Rozen, 1958, *loc. cit. supra*, p. 157).
- scutellaris scutellaris** (Fowler). Wyo., Idaho, Utah, Nev., Wash., Oreg., Calif.; Mexico (northern Baja California). *N. scutellaris peninsularis* (Cockerell) occurs in southern Baja California. (*Micronomadopsis*)  
Taxonomy: Rozen, 1958, *loc. cit. supra*, p. 160, figs. 24, 25, 47, 48, 62, 73, 190-194, map 17. ♂, ♀.
- \***smithi** Rozen. Calif. (San Benito Co.). On flowers of *Cryptantha*. (*subgenus uncertain*)  
*Nomadopsis smithi* Rozen, 1958. Calif. Univ. Pubs. Ent. 15: 169, figs. 214-218, map 7. ♂, ♀.
- \***snellingi** Rozen. Calif. (Fresno Co.). On flowers of *Salvia*. (*Micronomadopsis*)  
*Nomadopsis (Micronomadopsis) snellingi* Rozen, 1963. Amer. Mus. Novitates 2142: 9, figs. 7-11. ♂, ♀.
- \***solitaria** Rozen. Calif. (Lassen Co.).  
*Nomadopsis solitaria* Rozen, 1963. Amer. Mus. Novitates 2142: 15, figs. 16-20. ♂.
- \***timberlakei** Rozen. Calif. (Los Angeles Co.). On flowers of *Monardella*. (*Nomadopsis*)  
*Nomadopsis timberlakei* Rozen, 1958. Calif. Univ. Pubs. Ent. 15: 73, map 2. ♂, ♀.
- triangulifera** (Cockerell). Syn. of *edwardsii* (Cresson).
- trifolii** Timberlake. (*Micronomadopsis*)
- \***xenus** Rozen. Wash., Calif. On flowers of *Phacelia*. (*subgenus uncertain*)

*Nomadopsis xenus* Rozen, 1958. Calif. Univ. Pubs. Ent. 15: 209, map 7.  
♂, ♀.

\**zebrata bobbae* Rozen. Ariz. (Navajo and Coconino Counties). (*Macronomadopsis*)

*Nomadopsis zebrata bobbae* Rozen, 1958. Calif. Univ. Pubs. Ent. 15: 107. ♂, ♀.

*zebrata zebrata* (Cresson), changed status. Colo., Wyo., N. Mex. On flowers of *Astragalus*. (*Macronomadopsis*)

*Nomadopsis zebrata* (Cresson). Reduced to subsp. rank (*teste* Rozen, 1958, *loc. cit. supra*, p. 106).

\**zonalis sierrae* Rozen. Calif. (Eldorado Co.). On flowers of *Monardella*, *Solidago*. (*Nomadopsis*)

*Nomadopsis zonalis sierrae* Rozen, 1958. Calif. Univ. Pubs. Ent. 15: 71.  
♂, ♀.

Biology: Rozen, 1963, *loc. cit. supra*, pp. 2-6.

*zonalis zonalis* (Cresson), changed status. Calif., central and south coasts. On flowers of *Monardella*. (*Nomadopsis*)

*Nomadopsis zonalis* (Cresson). Reduced to subsp. rank (*teste* Rozen, 1958, *loc. cit. supra*, p. 71).

#### CALLIOPSIS subgenus CALLIOPSIS Smith, p. 1103

*andreniformis* Smith. Visits a great number of flowers.

*Calliopsis lepida* Cresson (syn. by Mitchell, 1960, *loc. cit. supra*, p. 288).

*coloradensis* Cresson. Alta. to N. Mex., east to Ill. and Ga., N. C. Visits a number of flowers.

*lepida* Cresson. Syn. of *andreniformis* Smith.

*maculata* Smith. Delete from Catalog; apparently it is a South American species of *Acamptopoeum* (?).

#### CALLIOPSIS subgenus PERISSANDER Michener, p. 1104

*anomoptera* Michener. On flowers of *Euphorbia albomarginata*.

Biology: Krombein, 1961. Ent. News 72: 82-83.

#### Genus XENOPANURGUS Michener, Sup. 1, p. 229

*readioi* Michener. Mexico (Dist. Fed.).

Taxonomy: Shinn, 1964. Ent. News 75: 74 (♀, ♂).

## Family HALICTIDAE

Biology: Sakagami and Michener, 1962. The Nest Architecture of the Sweat Bees, 135 pp., 181 figs.

Taxonomy: Eickwort and Fischer, 1963. Ent. Soc. Amer. Ann. 56: 348-354 (value of hind tibial spur).

#### HALICTUS subgenus HALICTUS Latreille, pp. 1104-1105

*ligatus* Say. Visits a number of flowers.

Biology: Knerer and Atwood, 1962. Ent. Soc. Ontario Proc. 92: 160.

*parallelus* Say. On flowers of *Melilotus*, *Potentilla*, *Rhus*, *Rubus* and *Solidago*.

*rubicundus* (Christ). Visits a number of flowers.

Biology: Knerer and Atwood, 1962, *loc. cit. supra*, p. 162.

#### HALICTUS subgenus SELADONIA Robertson, p. 1105

*confusus confusus* Smith. Visits a number of flowers.

Biology: Knerer and Atwood, 1962, *loc. cit. supra*, p. 161.

**LASIOGLOSSUM** subgenus **LASIOGLOSSUM** Curtis, pp. 1106-1107

**athabascense** (Sandhouse). B. C. to N. S., south to Wis., Mich., Ohio and in the east to N. C. Visits flowers of *Cornus*, *Epilobium*, *Pyrus*, *Ranunculus*, *Rubus*, *Taraxacum* and *Veronica*.

**capitulatum** (Vachal). Syn. of **fuscipenne** (Smith).

**coriaceum** (Smith). Visits a number of flowers.

**forbesii** (Robertson). Visits a number of flowers.

Biology: Knerer and Atwood, 1962, *loc. cit. supra*, p. 163.

**fuscipenne** (Smith). N. S. to Ont., south to Fla. and Tex. Taken on a number of flowers.

**Lasioglossum** (**Lasioglossum**) **capitulatum** (Vachal) (syn. by Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 343).

**leucozonium** (Schrank). Visits a number of flowers.

Biology: Knerer and Atwood, 1962, *loc. cit. supra*, p. 163.

**sisymbrii** (Cockerell).

Biology: Linsley, 1962. Ent. Soc. Amer. Ann. 55: 159.

**zonulum** (Smith). Holarctic; N. S. to Minn., south to N. Y., Mich., Wis. Visits a number of flowers.

Biology: Knerer and Atwood, 1962, *loc. cit. supra*, p. 163.

**LASIOGLOSSUM** subgenus **EVYLAEUS** Robertson, pp. 1107-1110

**aberrans** (Crawford). Transferred from subg. **Sphecodogastra** (*teste* Linsley and MacSwain, 1962. Pan-Pacific Ent. 38: 45).

**adelipus** (Vachal). Syn. of **cinctipes** (Provancher).

\***adsurdiceps** (Timberlake), n. comb. Calif. (Merced).

**Halictus** (**Evylaus**) **adsurdiceps** Timberlake, 1962. Ent. Soc. Wash. Proc. 62: 105. ♂.

**arcuatum arcuatum** (Robertson). Syn. of **cinctipes** (Provancher).

**arcuatum parisum** (Lovell). Syn. of **cinctipes** (Provancher).

\***bradleyi** (Mitchell), n. comb. N. J. (Pitman).

**Evylaus** **bradleyi** Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 356, figs. 88, 91. ♂.

**cinctipes** (Provancher). N. S. to Fla., west to N. Dak. and Colo. Visits a great number of flowers. Transf. from Species of *Lasioglossum*, Subgenus Doubtful, p. 1119 (*teste* Mitchell, 1960, *loc. cit. supra*, p. 350).

**Lasioglossum** (**Evylaus**) **adelipus** (Vachal) (syn. by Mitchell, 1960, *loc. cit. supra*, p. 350).

**Lasioglossum** (**Evylaus**) **arcuatum parisum** (Lovell) (syn. by Mitchell, 1960, *loc. cit. supra*, p. 350).

**Lasioglossum** (**Evylaus**) **arcuatum arcuatum** (Robertson) (syn. by Knerer and Atwood, 1962, *loc. cit. supra*, p. 164).

**Lasioglossum** (**Evylaus**) **gulosum** (Cockerell) (syn. under typical **arcuatum** by Mitchell, 1962. N. C. Agr. Expt. Sta. Tech. Bull. 152: 547).

Biology and Taxonomy: Knerer and Atwood, 1964. Canad. Ent. 96: 960-962, fig. 1.

\***comagenensis** (Knerer and Atwood), n. comb. Ont., Alaska. On many flowers.

**Evylaus** **comagenensis** Knerer and Atwood, 1964. Canad. Ent. 96: 959, fig. 1. ♀, ♂.

\***divergenoides** (Mitchell), n. comb. Mich., Ind.

**Evylaus** **divergenoides** Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 351, fig. 91. ♂.

**divergens** (Lovell). Minn. to N. S., south to Ga. Taken on a number of flowers.

Taxonomy: Knerer and Atwood, 1964. Canad. Ent. 96: 958, fig. 1.

**foxii** (Robertson). Man. and Minn. to N. S., south to Ga. Taken on a large number of flowers.

Biology: Knerer and Atwood, 1962, *loc. cit. supra*, p. 164.

**gulosum** (Cockerell). Syn. of **arcuatum** (Robertson).

**lusorium** (Cresson). Transferred from subg. **Sphecodogastra** (*teste* Linsley and MacSwain, 1962. Pan-Pacific Ent. 38: 45).

**macoupinense** (Robertson). Minn. to N. B., south to Ga. and Ala. Visits a number of flowers.

**nelumbonis** (Robertson). Maine to Minn., south to Fla. and Tex. Visits a number of flowers.

**oenotherae** (Stevens). N. Dak. and Kans. to N. S., south to Ga. Transferred from subg. **Sphecodogastra** (*teste* Linsley and MacSwain, 1962. Pan-Pacific Ent. 38: 45).

**Lasioglossum (Evylaeus) ralenci** (Crawford) (syn. by Mitchell, 1960, *loc. cit. supra*, p. 365).

Taxonomy: Knerer and Atwood, 1964. Canad. Ent. 96: 958-959, fig. 1.

\***pineolensis** (Mitchell), n. comb. N. C. (Pineola).

**Evylaeus pineolensis** Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 358. ♂.

**quebecense** (Crawford). Minn. to Newfoundland, south to Ga. Taken on a number of flowers.

**ralenci** (Crawford). Syn. of **oenotherae** (Stevens).

**rufitarse** (Zetterstedt). Holarctic; N. S., N. B., Ont., Mich. Taken on many flowers.

**sopinci** (Crawford). N. J., N. C., Ga.

**truncatum** (Robertson). Maine and Que. to Wash., south to Ga. Visits a number of flowers.

Taxonomy: Knerer and Atwood, 1964. Canad. Ent. 96: 962, fig. 1.

#### LASIOGLOSSUM subgenus HEMIHALICTUS Cockerell, p. 1110

**lustrans** (Cockerell). Va. to Fla., Ind. and Mich. to Miss. and Tex. Oligoleptic on *Pyrrhophappus*, but occasionally visits other flowers.

Biology and Taxonomy: Daly, 1961. Kans. Ent. Soc. Jour. 34: 134-140, 13 figs.

#### LASIOGLOSSUM subgenus SPHECODOGASTRA Ashmead, p. 1111

**aberrans** (Crawford). Transfer to subg. **Evylaeus**, p. 1107.

**lusorium** (Cresson). Transfer to subg. **Evylaeus**, p. 1108.

\***noctivaga** Linsley and MacSwain. Utah, N. Mex., west. Tex. On flowers of *Oenothera hartwegii*.

**Lasioglossum (Sphecodogastra) noctivaga** Linsley and MacSwain, 1962. Pan-Pacific Ent. 38: 46. ♀.

**oenotherae** (Stevens). Transfer to subg. **Evylaeus**, p. 1109.

**texanum** (Cresson). Ind.

Biology: Chandler, 1962. Ind. Acad. Sci. Proc. for 1961, 71: 124-129, 2 figs., 2 tables.

#### LASIOGLOSSUM subgenus CHLORALICTUS Robertson, pp. 1111-1119

Synonymized under **Dialictus** Robertson, p. 1119, and component species transferred to that subgenus.

#### LASIOGLOSSUM subgenus DIALICTUS Robertson, p. 1119

*Chloralictus* synonymized under *Dialictus* by Mitchell (1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 368). Mitchell considered *Dialictus* to be of generic rank, but usage in the Catalog is continued here.

- abanci** (Crawford). Minn. to N. B., south to Ga. Taken on flowers of *Aruncus*, *Houstonia*, *Krigia*, *Melilotus*, *Rubus*, and *Rudbeckia*.
- \***achilleae** (Mitchell), n. comb. Mass. to N. C., Mich. Taken on flowers of *Achillea*, *Ceanothus*, and *Hydrangea*.  
*Dialictus achilleae* Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 377. ♀.
- admirandum** (Sandhouse). Minn. to N. S., south to La. and Fla. Visits a large number of flowers.
- \***advertum** (Mitchell), n. comb. Mass. (Reading).  
*Dialictus advertum* Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 433, fig. 102. ♂.
- \***alachuense** (Mitchell), n. comb. Ga., Fla.  
*Dialictus alachuensis* Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 378. ♀.
- albipenne** (Robertson). N. S. to Oreg., south to N. C., Ill. and Colo. Visits a number of flowers.
- \***alternatum** (Mitchell), n. comb. Mass. to Va., Ohio, Mich.  
*Dialictus alternatus* Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 433. ♂.
- anomalum** (Robertson). Alta. and Colo. east to N. S., south to Ala. and Ga. Visits flowers of *Aster*, *Capsellum*, *Ceanothus*, *Houstonia*, *Hyposis*, and *Solidago*.
- apertum** (Sandhouse). Minn. to Maine, south to La. and Ga. Visits a number of flowers.
- \***apocyni** (Mitchell), n. comb. W. Va., Ohio, Ind., Tenn. Taken on flowers of *Apocynum cannabinum*.  
*Dialictus apocyni* Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 381. ♀.
- apopkense** (Robertson). N. C. to Fla., Miss. Visits a number of flowers.
- ashmeadii** (Robertson). Syn. of **creberrimum** (Smith).
- \***atlanticum** (Mitchell), n. comb. Mass., N. Y., W. Va., N. C. Taken on flowers of *Apocynum*, *Barbarea*, *Melilotus*, and *Vernonia*.  
*Dialictus atlanticus* Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 383, fig. 99. ♀.
- \***banksi** (Mitchell), n. comb. Mich. to N. S., south to N. C. and Tenn. Taken on flowers of *Apocynum*, *Melilotus*, and *Solidago*.  
*Dialictus banksi* Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 434, fig. 102. ♂.
- basilicum** (Sandhouse). Minn. to Conn.
- \***brassicae** (Mitchell), n. comb. N. C., Fla. Taken on flowers of *Brassica* and *Stachys*.  
*Dialictus brassicae* Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 384. ♀.
- bruneri** (Crawford). Nebr. to N. Y., south to Fla. Visits a number of flowers.
- bryncinci** (Crawford). Syn. of **perpunctatum** (Ellis).
- californiae** (Ellis). Change spelling in sp. heading from *californiae* to *californiae*. Change author's name in sp. heading from Sandhouse to Ellis; in cit. of orig. descr., change author from Sandhouse to Ellis in Sandhouse.
- callidum** (Sandhouse). Ill. and Mich. to New England, south to N. C. Taken on flowers of *Celeri*, *Fagopyrum*, *Melilotus*, and *Solidago*.
- cattellae** (Ellis). Ohio, Que., New England, south to Ga. Taken on flowers of *Aruncus*, *Chrysanthemum*, *Houstonia*, *Malus*, *Rubus*, *Rudbeckia*, and *Viburnum*.



- \***ceanothi** (Mitchell), n. comb. N. C., Mich., Mo. Taken on flowers of *Ceanothus americanus*.  
**Dialictus ceanothi** Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 386, fig. 99. ♀.
- coeruleum** (Robertson). Minn. to Mass., south to Ga. Visits a number of flowers. Nests in abandoned beetle burrows in fallen trees.  
 Biology: Knerer and Atwood, 1962. Ent. Soc. Ontario Proc. 92: 167.
- consonum** (Sandhouse). Syn. of **versans** (Lovell).
- coreopsis** (Robertson). Ill. and Mich. to Mass., south to Fla. Taken on a great number of flowers.  
**Lasioglossum (Chloralictus) robertsonellum** Michener (syn. by Mitchell, 1960, *loc. cit. supra*, p. 388).
- creberrimum** (Smith). N. C. to Fla., La. Taken on flowers of *Aronia*, *Eryngium*, *Hypericum*, *Kalmia*, and *Oenothera*.  
**Lasioglossum (Chloralictus) ashmeadii** (Robertson) (syn. by Mitchell, 1960, *loc. cit. supra*, p. 390).
- cressonii** (Robertson). Nests in rotten wood above ground. Visits a great number of flowers.
- \***delectatum** (Mitchell), n. comb. N. B. to N. C., W. Va., Ohio, Ont. Taken on flowers of *Daucus carota*.  
**Dialictus delectatus** Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 435. ♂.
- \***dreisbachi** (Mitchell), n. comb. N. Y., Md., Mich., Minn.  
**Dialictus dreisbachi** Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 391, fig. 101. ♀, ♂.
- \***dubitatum** (Mitchell), n. comb. N. Y. (Cortland Co.).  
**Dialictus dubitalus** (!) Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 436. ♂. Spelled **dubitatus** in key (p. 376) and in index (p. 533).
- ellisiae** (Sandhouse). Syn. of **tegulare** (Robertson).
- euryceps** (Ellis). Syn. of **laevissimum** (Smith).
- \***fattigi** (Mitchell), n. comb. N. C., Ga. Taken on flowers of *Aruncus*, *Ceanothus* and *Hydrangea*.  
**Dialictus fattigi** Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 392. ♀.
- \***flaveriae** (Mitchell), n. comb. Fla. Taken on flowers of *Achyranthes*, *Flaveria*, *Lyonia* and *Mikania*.  
**Dialictus flaveriae** Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 393, figs. 101, 102. ♀, ♂.
- floridanum caesareum** (Cockerell). Syn. of **pilosum pilosum** (Smith).
- floridanum floridanum** (Robertson). A subsp. of **pilosum** (Smith).
- foveolatum** (Robertson). Ill., Mich. Taken on flowers of *Aster* and *Rhus*.
- genuinum** (Sandhouse). Ont. to N. C. Taken on flowers of *Daucus* and *Hydrangea*.
- graenicheri** (Ellis). Syn. of **pictum** (Crawford).
- halophitum** (Graenicher). N. C. to Fla., La. Taken on a number of flowers.
- hartii** (Robertson). Nebr., Minn. and Ill. to La. and N. C. Taken on flowers of *Anthemis*, *Erigeron*, *Hypericum*, *Rorippa*, *Rubus*, and *Vicia*.  
**Lasioglossum (Chloralictus) rugosum** (Crawford) (syn. by Mitchell, 1960, *loc. cit. supra*, p. 396).
- \***heterognathum** (Mitchell), n. comb. N. B. to Minn., south to N. C. and Tenn. Taken on a number of flowers.  
**Dialictus heterognathus** Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 397, figs. 95, 99. ♀.
- Taxonomy: Knerer and Atwood, 1963. Ent. Soc. Wash. Proc. 65: 167. ♂.

- \***highlandicum** (Mitchell), n. comb. N. C., Ont. Taken on flowers of *Rudbeckia*.  
**Dialictus highlandicus** Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 398. ♀.
- illinoense** (Robertson). Nebr. and Minn. to N. S., south to Tex. and Ga. Visits a number of flowers.  
**Lasioglossum (Chloralictus) politissimum** (Cockerell) (syn. by Mitchell, 1960, *loc. cit. supra*, p. 399).
- imitatum** (Smith). New England and Que. west to Minn., south to Fla. and N. Mex. Visits a number of flowers.  
**Lasioglossum (Chloralictus) inconspicuum** (Smith) (syn. by Knerer and Atwood, 1962. Ent. Soc. Ontario Proc. 92: 168).  
 Biology: Michener and Wille, 1961. Kans. Univ. Sci. Bull. 42: 1123-1202, 44 figs., 11 tables.
- inconspicuum** (Smith). Syn. of **imitatum** (Smith).
- \***intrepidum** (Mitchell), n. comb. Ga. (Stone Mt.).  
**Dialictus intrepidus** Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 437. ♂.
- \***junaluskense** (Mitchell), n. comb. N. C., N. Y., Mich., Minn. Taken on flowers of *Fagopyrum esculentum*.  
**Dialictus junaluskensis** Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 437. ♂.
- laevissimum** (Smith). N. S. to Alta., south to Ga. and Calif. Visits a number of flowers.  
**Lasioglossum (Chloralictus) smilacinae** (Robertson) (syn. by Mitchell, 1960, *loc. cit. supra*, p. 401).  
**Lasioglossum (Chloralictus) euryceps** (Ellis) (syn. by Mitchell, 1960, *loc. cit. supra*, p. 401).  
 Taxonomy: Knerer and Atwood, 1962. Canad. Ent. 94: 1228. ♂.  
 Biology: Knerer and Atwood, 1962. Ent. Soc. Ontario Proc. 92: 168.
- \***lectum** (Mitchell), n. comb. Ga., D. C., N. J., Ind.  
**Dialictus lectus** Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 438. ♂.
- lepidii** (Graenicher). Syn. of **tegulare** (Robertson).
- \***lepidum** (Mitchell). Syn. of **viridatum** (Lovell).
- \***leviense** (Mitchell), n. comb. N. C. to Fla. Taken on flowers of *Polygonum* and *Zizia*.  
**Dialictus leviensis** Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 403. ♀.
- lineatulum** (Crawford). Minn. to Newfoundland, south to Tex. and Ga. Taken on a number of flowers. Remove **unicum** (Sandhouse), a valid sp., from syn.  
 Biology: Knerer and Atwood, 1962. Ent. Soc. Ontario Proc. 92: 169.
- marinum** (Crawford). Mass. to Fla. Taken on flowers of *Alternanthera*, *Bidens*, *Helianthus*, and *Parthenocissus*.
- \***miniaturum** (Mitchell), n. comb. Fla. Taken on flowers of *Flaveria linearis*.  
**Dialictus miniaturus** Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 405. ♀.
- \***muskegonense** (Mitchell). Syn. of **pictum** (Crawford).
- nigroviride** (Graenicher). B. C. to N. B., south to Ga. Taken on many flowers.
- \***novascotiae** (Mitchell), n. comb. N. S., Ont. On flowers of *Fragaria* and *Salix*.  
**Dialictus novascotiae** Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 407. ♀.  
 Taxonomy: Knerer and Atwood, 1964. Ent. News 75: 5, fig. 1 (♂).

- nymphaearum** (Robertson). Minn. and Kans. to N. S., south to Ga. Visits a number of flowers.
- nymphale** (Smith). Minn. to Mass., south to Tex. and Fla. Visits a number of flowers.
- oblongum** (Lovell). Colo., Minn., and N. S., south to N. Mex., La., and Ga. Nests in rotten wood above ground. Visits a number of flowers.
- obscurum** (Robertson). Minn. and Ill. to Conn., south to Ga. Taken on a large number of flowers.
- \*orbitatum** (Mitchell), n. comb. Minn. to Conn., south to N. C. and W. Va. Taken on flowers of *Rhus* and *Rudbeckia*.  
*Dialictus orbitatus* Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 440, fig. 101. ♂.
- \*otsegoense** (Mitchell), n. comb. Mich. (Otsego Co.).  
*Dialictus otsegoensis* Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 440. ♂.
- perpunctatum** (Ellis). Minn. to N. B., south to N. Mex. and Ga. Taken on a number of flowers.  
*Lasioglossum (Chloralictus) brycinci* (Crawford) (syn. by Mitchell, 1960, *loc. cit. supra*, p. 411).
- \*philanthanum** (Mitchell), n. comb. N. C., N. Y., Mich. On flowers of *Solidago*.  
*Dialictus philanthanus* Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 441. ♂.
- pictum** (Crawford). Nebr., Minn., Wis., Mich., Ill. On flowers of *Lepidium*, *Melilotus*, *Salix*, and *Solidago*.  
*Lasioglossum (Chloralictus) graenicheri* (Ellis) (syn. by Mitchell, 1960, *loc. cit. supra*, p. 412).  
**\*Dialictus muskegonensis** Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 439. ♂. (Syn. by Mitchell, 1962, *op. cit.*, Bull. 152: 547.)  
 Biology: Knerer and Atwood, 1962. Ent. Soc. Ontario Proc. 92: 170.
- pilosum floridanum** (Robertson). N. C. to Fla. Taken on a number of flowers.  
*Lasioglossum (Chloralictus) floridanum floridanum* (Robertson). A subsp. of **pilosum** (Smith) (*teste* Mitchell, 1960, *loc. cit. supra*, p. 414).
- pilosum pilosum** (Smith), changed status. Colo. and Minn. to N. S., south to Ga. Taken on a great number of flowers.  
*Lasioglossum (Chloralictus) pilosum* (Smith). Reduced to subsp. rank (*teste* Mitchell, 1960, *loc. cit. supra*, p. 413).  
*Lasioglossum (Chloralictus) floridanum caesareum* (Cockerell). Syn. by Mitchell, 1962, *loc. cit. supra*, p. 547.  
 Biology: Knerer and Atwood, 1962. Ent. Soc. Ontario Proc. 92: 170.
- \*placidense** (Mitchell), n. comb. Fla.  
*Dialictus placidensis* Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 441. ♂.
- politissimum** (Cockerell). Syn. of **illinoense** (Robertson).
- pruinoseum** (Robertson). Alta. to New England states, south to Ariz. and N. J. Taken on a number of flowers.
- raleighense** (Crawford). N. C. to Fla. Taken on flowers of *Galactia*, *Polygonum* and *Tephrosia*.
- reticulatum** (Robertson). Ill. and Mich. to Maine, south to Fla. Taken on flowers of *Aronia*, *Bidens*, *Crataegus*, *Melilotus*, *Prunus*, *Rhus*, *Rubus*, *Solidago*, and *Vaccinium*.
- robertsonellum** Michener. Syn. of **coreopsis** (Robertson).

- rohweri** (Ellis). Minn. to Maine, south to Ga. Taken on a number of flowers.  
 Taxonomy: Knerer and Atwood, 1962. *Canad. Ent.* 94: 1230. ♂.  
 Biology: Knerer and Atwood, 1962. *Ent. Soc. Ontario Proc.* 92: 171.
- rugosum** (Crawford). Syn. of **hartii** (Robertson).
- sandhouseae** Michener. Colo., Minn., Ont. On flowers of *Anaphalis*, *Epilobium*, *Prunus*, *Salix*, and *Solidago*.  
 Taxonomy: Knerer and Atwood, 1964. *Ent. News* 75: 7 (♀).
- smilacinae** (Robertson). Syn. of **laevisimum** (Smith).
- \*solidaginis** (Mitchell), n. comb. Mich. to Maine, south to Ind., W. Va., and N. Y. Taken on flowers of *Solidago*.  
***Dialictus solidaginis*** Mitchell, 1960. *N. C. Agr. Expt. Sta. Tech. Bull.* 141: 443, fig. 102. ♂.
- \*stuartense** (Mitchell), n. comb. Fla. (Stuart). Taken on flowers of *Chrysopsis*.  
***Dialictus stuartensis*** Mitchell, 1960. *N. C. Agr. Expt. Sta. Tech. Bull.* 141: 419. ♀.
- \*subversans** (Mitchell), n. comb. Mich., N. Y.  
***Dialictus subversans*** Mitchell, 1960. *N. C. Agr. Expt. Sta. Tech. Bull.* 141: 419. ♀.
- supraclypeatum** (Mitchell), n. comb. Va., Mich., Tenn., Mo.  
***Dialictus supraclypeatus*** Mitchell, 1960. *N. C. Agr. Expt. Sta. Tech. Bull.* 141: 420, fig. 99. ♀.
- \*surianae** (Mitchell), n. comb. Fla. Taken on flowers of *Bidens* and *Suriana*.  
***Dialictus surianae*** Mitchell, 1960. *N. C. Agr. Expt. Sta. Tech. Bull.* 141: 420. ♀.
- \*tahitense** (Mitchell), n. comb. Fla. (Tahiti Beach).  
***Dialictus tahitensis*** Mitchell, 1960. *N. C. Agr. Expt. Sta. Tech. Bull.* 141: 421. ♀.
- \*tamiamense** (Mitchell), n. comb. Fla. Taken on a number of flowers.  
***Dialictus tamiamensis*** Mitchell, 1960. *N. C. Agr. Expt. Sta. Tech. Bull.* 141: 421, figs. 98, 101, 102. ♀, ♂.
- \*tarponense** (Mitchell), n. comb. Fla., Ga. Taken on flowers of *Prunus angustifolia*.  
***Dialictus tarponensis*** Mitchell, 1960. *N. C. Agr. Expt. Sta. Tech. Bull.* 141: 423. ♀.
- tegulare** (Robertson). Minn. to N. H., south to Tex. and Fla. Visits a great number of flowers.  
***Lasioglossum (Chloralictus) ellisiae*** (Sandhouse) (syn. by Mitchell, 1960, *loc. cit. supra*, p. 424).  
***Lasioglossum (Chloralictus) lepidii*** (Graenicher) (syn. by Mitchell, 1960, *loc. cit. supra*, p. 424).
- unicum** (Sandhouse). Minn., Mich., N. H., Va., N. C. Taken on flowers of *Apocynum*, *Ceanothus*, and *Melilotus*.  
***Lasioglossum (Chloralictus) lineatulum*** (Crawford) of Catalog, in part.  
***L. unicum*** not a syn. (*teste* Mitchell, 1960, *loc. cit. supra*, p. 424).
- versans** (Lovell). Minn. to Newfoundland, south to Ga. Visits many flowers.  
***Lasioglossum (Chloralictus) consonum*** (Sandhouse) (syn. by Mitchell, 1960, *loc. cit. supra*, p. 427).
- versatum** (Robertson). Minn. to Md., south to La. and Ga. Visits a large number of flowers.
- vierecki** (Crawford). Minn. to New England States, south to Tex., La., and Ga. Taken on flowers of *Ceanothus*, *Helianthus*, *Hydrangea*, *Monarda*, *Rubus*, *Solidago*, and *Specularia*.
- viridatum** (Lovell). Minn. to N. S., south to La. and Ga. Taken on a number of flowers.

- \**Dialictus lepidus*** Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 438. ♂. (Syn. by Mitchell, 1962, N. C. Agr. Expt. Sta. Tech. Bull. 152: 547.)
- \**weemsi*** (Mitchell), n. comb. N. C., Ga. Taken on flowers of *Melilotus officinalis*.
- Dialictus weemsi*** Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 431, fig. 99. ♀.
- \**wheeleri*** (Mitchell), n. comb. Mass. (Forest Hills).
- Dialictus wheeleri*** Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 445. ♂.
- zephyrum** (Smith). Maine to Ga., west to Minn., Colo. and Tex., Utah, Oreg. Visits a great number of flowers.
- Biology: LaBerge and Isakson, 1963. Ent. News 74: 113-116.—Lin, N., 1964. Ins. Sociaux 11: 187-192 (reaction to mutilid parasitism).—Batra, 1964. Ins. Sociaux 11: 159-186, 20 figs.

**LASIOGLOSSUM subgenus PARALICTUS Robertson, p. 1119**

- \**asteris*** (Mitchell), n. comb. N. Y. to N. C., west to Mich., Ind. and Tenn. Taken on flowers of *Aster* and *Robinia*.
- Paralictus asteris*** Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 446. ♀, ♂.
- cephalotes** (Dalla Torre). Minn. to Conn., south to N. C. Taken on flowers of *Gonolobus*, *Leucanthemum*, and *Salix*. Host: *Lasioglossum* (*Dialictus*) *inconspicuum* (Sm.) and other spp. of this subgenus.
- \**michiganense*** (Mitchell), n. comb. Mich. (Wayne Co.).
- Paralictus michiganensis*** Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 448. ♀.
- platyparium** (Robertson). Minn., Mich., and Md. south to Tenn. and Ga. Taken on a number of flowers.
- simplex** (Robertson). Mich. to Mass., south to N. C. Taken on flowers of *Achillea*, *Ranunculus*, *Rubus*, *Solidago* and *Zizia*.

**Species of Lasioglossum, Subgenus Doubtful, p. 1119**

- cinctipes*** (Provancher). Transf. to *Lasioglossum* subg. *Evylaeus*, p. 1106.

**Genus SPHECODES Latreille, pp. 1120-1123**

- antennariae** Robertson. Wis. and Mich. to N. C. Taken on flowers of *Antennaria*, *Aster* and *Pycnanthemum*.
- \**aroniae*** Mitchell. Va., N. C. Taken on flowers of *Aronia* and *Ilex*.
- Sphecodes aroniae*** Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 474. ♀, ♂.
- banksii** Lovell. Minn. to N. Y., south to Fla. Taken on flowers of *Euphorbia* and *Melilotus*.
- canadensis** Mitchell. Syn. of *coronus* Mitchell.
- \**castaneae*** Mitchell. Va. (Falls Church).
- Sphecodes castaneae*** Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 480. ♀.
- clematidis** Robertson. Man. and Kans. to N. S., south to N. C. Taken on flowers of *Aruncus*, *Ceanothus*, *Clematis*, *Daucus*, *Pastinaca*, and *Solidago*.
- Sphecodes obscurans*** Lovell and Cockerell (syn. by Mitchell, 1960, *loc. cit. supra*, p. 481).
- confertus** Say. Minn. and Colo. to N. S., Tex. and Ga. Visits flowers of *Asclepias*, *Cicuta*, *Ptelea*, *Pycnanthemum*, *Rhus*, and *Salix*.
- Sphecodes pithanus*** Lovell (syn. by Mitchell, 1960, *loc. cit. supra*, p. 482).

**coronus** Mitchell.

*Sphecodes canadensis* Mitchell (syn. by Mitchell, 1960, *loc. cit. supra*, p. 483).

**cressonii** Robertson. Minn. and Ont. to New England States, south to Mo. and N. C. Visits a number of flowers.

*Sphecodes mandibularis* Cresson of Catalog and Sup. 1, in part. *S. cressonii*, with syns. *heterus* Lovell and *nephelotus* Lovell and Cockerell, is a valid sp. (*teste* Mitchell, 1960, *loc. cit. supra*, p. 484).

**davisii** Robertson. Minn. and Ont. to N. Y. and New England.

**dichrous** Smith. Minn. to N. S., south to Mo. and Ga. Visits a large number of flowers.

**galerus** Lovell and Cockerell. N. H. and Vt. to Va.

**heraclei heraclei** Robertson, changed status. Ill. to New England States, south to Ala. and Fla. Taken on a number of flowers.

*Sphecodes heraclei* Robertson. Reduced to subsp. rank (*teste* Mitchell, 1960, *loc. cit. supra*, p. 489).

**heraclei ignitus** Cockerell, changed status. Ala., Fla. Taken on a number of flowers.

*Sphecodes ignitus* Cockerell. Reduced to subsp. rank (*teste* Mitchell, 1960, *loc. cit. supra*, p. 490).

**ignitus** Cockerell. A subsp. of **heraclei** Robertson.

**illinoensis** (Robertson). Minn. and Ont. to New England, south to N. C. Taken on flowers of *Angelica* and *Heracleum*.

**johnsonii** Lovell. Que. and N. B. south to N. C. Taken on flowers of *Aster*.

**knetschi** Cockerell. Ill. to New England States, south to N. C. Taken on flowers of *Ceanothus*.

**levis** Lovell and Cockerell. Minn. and Ont. to Maine, south to Tenn. and N. C. Taken on flowers of *Daucus* and *Trifolium*.

**mandibularis** Cresson. Delete **cressonii** Robertson, a valid sp., and its syns. *heterus* Lovell and *nephelotus* Lovell and Cockerell from syn.

**minor** Robertson. Alta. to Maine, south to N. C. and Miss. Taken on a number of flowers.

**morsei** Mitchell. Syn. of **solonis** Graenicher.

**obscurans** Lovell and Cockerell. Syn. of **clematidis** Robertson.

**packardi** Mitchell. Syn. of **solonis** Graenicher.

**persimilis** Lovell and Cockerell. Mich. to N. Y., R. I., Maine. Taken on flowers of *Rubus*.

**pimpinellae** Robertson. Ill. to Va., N. C. Taken on flowers of *Eupatorium* and *Taenidia*. Hosts: *Augochlorella striata* (Prov.), *A. persimilis* (Vier.).

Biology: Ordway, 1964. Kans. Ent. Soc. Jour. 37: 140-147.

**pithanus** Lovell. Syn. of **confertus** Say.

**prosporus** Lovell and Cockerell. Minn. to N. S., south to N. C. Taken on flowers of *Barbarea*, *Chrysanthemum*, *Fagopyrum*, and *Rubus*.

\***prostygus** Mitchell. N. H., Fla. Taken on flowers of *Solidago*.

*Sphecodes prostygus* Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 499. ♀.

**ranunculi** Robertson. Minn. to Maine, south to N. C. Taken on a number of flowers.

**smilacinae** Robertson. Minn., Ill. Taken on flowers of *Smilacina* and *Solidago*.

*solonis* Graenicher. Minn., Ont., and New England.

*Sphecodes morsei* Mitchell (syn. by Mitchell, 1960, *loc. cit. supra*, p. 495).

*Sphecodes packardi* Mitchell (syn. by Mitchell, 1960, *loc. cit. supra*, p. 495).

*stygius* Robertson. Minn. to Que. and New England States, south to Fla. Taken on a number of flowers.

*wheeleri* Mitchell. Probable male of *pimpinellae* Robertson.

Genus AGAPOSTEMON Guérin-Ménéville, pp. 1123-1125

*angelicus angelicus* Cockerell.

Biology: Linsley, 1962. Ent. Soc. Amer. Ann. 55: 159, fig. 5.

\**nasutus* Smith. Tex. (Brownsville) south to Panama.

*Agapostemon nasutus* Smith, 1853. Cat. Hym. Brit. Mus. 1: 87. ♂.

Taxonomy: Chandler, 1962. Ent. Soc. Amer. Ann. 55: 481.

\**sericeus* (Forster). Amer. septentrionale. Possibly an earlier name for *virescens* (Fabricius).

*Apis sericea* Forster, 1771. Novae Species Insectorum, Centuria I, p. 91. ♂.

Taxonomy: van der Vecht, 1959. Ent. Ber. 19: 69.

*virescens* (Fabricius). Visits a number of flowers.

Biology: Knerer and Atwood, 1962. Ent. Soc. Ontario Proc. 92: 173.

Genus AUGOCHLORA Smith, p. 1125

*pura mosieri* Cockerell. Southern Fla. Visits a number of flowers.

*Augochlora pura* (Say) of Catalog, in part. *A. mosieri* removed from syn. and raised to subsp. rank (*teste* Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 458).

*pura pura* (Say), changed status. Nests in rotten wood. Visits many flowers.

*Augochlora pura* (Say) of Catalog, in part. *A. mosieri* is a subsp. not a syn. (*teste* Mitchell, 1960, *loc. cit. supra*, p. 456).

*Halictus asaphes* Vachal. Transf. from syn. of *Augochlorella striata* Provancher (*teste* Mitchell, 1960, *loc. cit. supra*, p. 456).

Biology: Stockhammer, 1961. North Central Branch, Ent. Soc. Amer. Proc. 16: 17-18.

Genus AUGOCHLORELLA Sandhouse, pp. 1125-1126

Biology: Ordway, 1961. North Central Branch, Ent. Soc. Amer. Proc. 16: 17.—Ordway, 1964. Kans. Ent. Soc. Jour. 37: 139-140.

*striata* (Provancher). Visits many flowers. Delete *asaphes* (Vachal) from syn. and transf. to *Augochlora* as a syn. of *pura pura* (Say).

\*Genus TEMNOSOMA Smith

*Temnosoma* Smith, 1853. Cat. Hym. Brit. Mus., v. 1, p. 238.

Type: *Temnosoma metallicum* Smith. By monotypy.

Insert above *Augochloropsis* Cockerell, p. 1126.

\**smaragdinum* Smith. Ariz. (Tucson); Mexico.

*Temnosoma smaragdinum* Smith, 1879. Descr. New Species Hym. Brit. Mus., p. 29. ♂.

Genus AUGOCHLOROPSIS Cockerell, p. 1126

*anonyma* (Cockerell), changed status. Coastal Plain, N. C. to Fla. Visits a number of flowers.

*Augochloropsis cuprea* (Smith) of Catalog, in part. *A. anonyma* a valid sp. not a syn. (*teste* Mitchell, 1960, *loc. cit. supra*, p. 464).

*humeralis humeralis* (Patton). Syn. of *sumptuosa* (Smith).

*humeralis lacustris* (Cockerell). Syn. of *sumptuosa* (Smith).

**metallica fulgida** (Smith), changed status. Mich. to New England, south to La. and Fla. Visits a number of flowers.

**Augochloropsis cuprea** (Smith) of Catalog, in part. **A. fulgida**, with syn. **A. lucidula** (Smith), is a subsp. of **metallica** (Fabricius) (*teste* Mitchell, 1960, *loc. cit. supra*, p. 465).

\***metallica metallica** (Fabricius). New England and Ont., south to Fla. and Ariz.; Mexico to Panama. Visits a great number of flowers.

**Andrena metallica** Fabricius, 1793. Ent. syst. 2: 309.

**Augochloropsis cuprea** (Smith) of Catalog, in part. **A. cuprea** (Smith), **viridula** (Smith), **fervida** (Smith), **cleomis** (Titus), **chorisis** (Vachal), **viridissimus** (Viereck), **fulvofimbriata** (Friese) become synonyms of **metallica metallica** (syn. by Mitchell, 1960, *loc. cit. supra*, p. 465).

**sumptuosa** (Smith). Maine to Fla., west to S. Dak., Colo., and Tex. Visits a number of flowers.

**Augochloropsis cuprea** (Smith) of Catalog, in part. **A. sumptuosa** (Smith) a valid sp., not a syn. (*teste* Mitchell, 1960, *loc. cit. supra*, p. 466).

**Augochloropsis humeralis humeralis** (Patton) (syn. by Mitchell, 1960, *loc. cit. supra*, p. 466).

**Augochloropsis humeralis lacustris** (Cockerell) (syn. by Mitchell, 1960, *loc. cit. supra*, p. 466).

**\*NOMIA subgenus PARANOMIA Michener**

(= *Nomia* subg. *Curvinomia* Michener of Catalog, p. 1127)

\***Paranomía** Friese, 1897. Festschr. fünfzig. bestehene Ver. Schles. Insektenk. Breslau, p. 48. Preocc.

Type: *Nomia chalybeata* Smith. Desig. by Cockerell, 1910.

\***Paranomina** Michener, 1944. Amer. Mus. Nat. Hist. Bull. 82: 251. N. name.

**fedorensis** Cockerell. Transf. from subg. **Acunomia** Cockerell, p. 1127, *teste* Cross, 1958. Kans. Univ. Sci. Bul. 38: 1266.

**foxii** Dalla Torre. Transf. from subg. **Acunomia** Cockerell, p. 1127, *teste* Cross, 1958, *loc. cit. supra*, p. 1266.

**maneei** Cockerell. Transf. from subg. **Acunomia** Cockerell, p. 1128, *teste* Cross, 1958, *loc. cit. supra*, p. 1266.

**mesillensis** Cockerell. Transf. from subg. **Acunomia** Cockerell, p. 1128, *teste* Cross, 1958, *loc. cit. supra*, p. 1266.

**parksii** Cockerell. Transf. from subg. **Acunomia** Cockerell, p. 1128, *teste* Cross, 1958, *loc. cit. supra*, p. 1266.

**tetrazonata** Cockerell. Transf. from subg. **Acunomia** Cockerell, p. 1128, *teste* Cross, *loc. cit. supra*, p. 1266.

**universitatis** Cockerell. Transf. from subg. **Acunomia** Cockerell, p. 1128, *teste* Cross, 1958, *loc. cit. supra*, p. 1266.

**uvaldensis** Cockerell. Transf. from subg. **Acunomia** Cockerell, p. 1128, *teste* Cross, 1958, *loc. cit. supra*, p. 1266.

**zabriskii** Cockerell and Blair. Transf. from subg. **Acunomia** Cockerell, p. 1128, *teste* Cross, 1958, *loc. cit. supra*, p. 1266.

**NOMIA subgenus EPINOMIA Ashmead, p. 1127**

Revision: Cross, 1958. Kans. Univ. Sci. Bul. 38: 1261-1301, 4 figs.

**bakeri bakeri** Cockerell. A subsp. of **nevadensis** Cresson.

**bakeri pattoni** Cockerell. Syn. of **nevadensis bakeri** Cockerell.

\***micheneri** Cross. South. Ariz. and Tex., south to Jalisco and Guanajuato, Mexico. On flowers of *Helianthus*, *Guardiola*, and *Eysenhardtia*

**Nomia (Epinomia) micheneri** Cross, 1958. Kans. Univ. Sci. Bull. 38: 1273. ♂, ♀.



**nevadensis angelesia** Cockerell. Oreg., Calif., Nev.; Mexico (Baja California). On many flowers.

**nevadensis arizonensis** Cockerell. Utah, Ariz., N. Mex., south to Jalisco, Mexico. On many flowers.

**nevadensis bakeri** Cockerell, changed status. Fla. west to Wyo., Colo., N. Mex.; Mexico (Tamaulipas). On many flowers.

*Nomia bakeri bakeri* Cockerell. A subsp. of **nevadensis** (teste Cross, 1958, *loc. cit. supra*, p. 1294).

*Nomia bakeri pattoni* Cockerell. (Syn. by Cross, 1958, *loc. cit. supra*, p. 1294).

Biology: Kerfoot, 1964. Kans. Ent. Soc. Jour. 37: 152-157, 1 fig.

**nevadensis nevadensis** Cresson. Nev. only; delete other States.

**triangulifera** Vachal. Minn. and Ill. west to Utah and N. Mex. On flowers of *Bidens*, *Cleome*, *Gilia*, *Grindelia*, *Helianthus*, *Medicago*, *Polygonum*, *Rudbeckia*, *Silphium*, *Solidago* and *Vernonia*.

**NOMIA** subgenus **ACUNOMIA** Cockerell, pp. 1127-1128

**fedorensis** Cockerell. Transf. to subg. **Paranomina** Michener.

**foxii** Dalla Torre. Transf. to subg. **Paranomina** Michener.

**maneei** Cockerell. Transf. to subg. **Paranomina** Michener.

**melanderi melanderi** Cockerell.

Biology: Stephen and Evans, 1960. Oreg. Agr. Expt. Sta. Tech. Bul. 52: 1-39, 5 figs., 2 tables.—Frick, 1962. Ent. Soc. Amer. Ann. 55: 5-15.

**mesillensis** Cockerell. Transf. to subg. **Paranomina** Michener.

**parksii** Cockerell. Transf. to subg. **Paranomina** Michener.

**tetrazonata** Cockerell. Transf. to subg. **Paranomina** Michener.

**universitatis** Cockerell. Transf. to subg. **Paranomina** Michener.

**uvaldensis** Cockerell. Transf. to subg. **Paranomina** Michener.

**zabriskii** Cockerell and Blair. Transf. to subg. **Paranomina** Michener.

**NOMIA** subgenus **DIEUNOMIA** Cockerell, pp. 1128-1129

**heteropoda heteropoda** (Say). Man.

#### Subgenus Unknown

**compacta** Provancher. Transf. to **Epeoloides**, p. 1218, as a syn. of **pilosula** (Cresson).

**Genus CONANTHALICTUS** Cockerell, pp. 1129-1130

Revision: Timberlake, 1961. Pan-Pacific Ent. 37: 145-160.

**CONANTHALICTUS** subgenus **CONANTHALICTUS** Cockerell, p. 1129

**conanthi** (Cockerell). On flowers of *Nama hispidum*.

**CONANTHALICTUS** subgenus **PHACELIAPIS** Michener, pp. 1129-1130

\***caerulescens** Timberlake. Calif. (Riverside Co.). On flowers of *Phacelia crenulata*.

*Conanthalictus caerulescens* Timberlake, 1961. Pan-Pacific Ent. 37: 148. ♂, ♀.

\***cockerelli** Timberlake. Calif. (San Bernardino Co.). On flowers of *Phacelia*.  
*Conanthalictus cockerelli* Timberlake, 1961. Pan-Pacific Ent. 37: 155. ♂, ♀.

\***deserticola** Timberlake. Southern Calif. On flowers of *Nama* and *Oenothera*.

***Conanthalictus deserticola*** Timberlake, 1961. Pan-Pacific Ent. 37: 152. ♂. (Described under heading ***Conanthalictus namatophilus*** Timberlake, new species.)

\****mentzeliae*** Timberlake. Southern Calif. On flowers of *Mentzelia*, *Malacothrix* and *Phacelia*.

***Conanthalictus mentzeliae*** Timberlake, 1961. Pan-Pacific Ent. 37: 156. ♂, ♀.

\****minor*** Timberlake. Southern Calif. On flowers of *Nama*, *Oenothera*, and *Phacelia*

***Conanthalictus minor*** Timberlake, 1961. Pan-Pacific Ent. 37: 151. ♂, ♀. (Described under heading ***Conanthalictus deserticola*** Timberlake, new species.)

\****namatophilus*** Timberlake. Calif. (Riverside Co.). On flowers of *Nama* and *Oenothera*.

***Conanthalictus namatophilus*** Timberlake, 1961. Pan-Pacific Ent. 37: 153. ♂, ♀. (Described under heading ***Conanthalictus minor*** Timberlake, new species.)

\****nigricans*** Timberlake. Southern Calif. On flowers of *Phacelia* and *Cryptantha*.

***Conanthalictus nigricans*** Timberlake, 1961. Pan-Pacific Ent. 37: 149. ♂, ♀.

#### CONANTHALICTUS subgenus SPHECODOSOMA Crawford, p. 1130

\****dicksoni*** Timberlake. South. Calif., Tex. (Davis Mts.); Mexico (Durango). On flowers of *Nama* and *Coldenia*.

***Conanthalictus dicksoni*** Timberlake, 1961. Pan-Pacific Ent. 37: 158. ♀, ♂.

***pratti*** (Crawford). On flowers of *Lesquerella*.

#### DUFOUREA subgenus HALICTOIDES Nylander, pp. 1130–1134

***monardae*** (Viereck). Tenn.

***novaeangliae*** (Robertson). Mo. and Mich. to N. J. and Maine. Taken on flowers of *Fagopyrum* and *Pontederia*.

### Family MELITTIDAE

#### MELITTA subgenus MELITTA Kirby, p. 1134

***americana*** (Smith). Maine to Ga., Miss. Taken on flowers of *Polycodium* and *Rubus*.

#### MELITTA subgenus DOLICHOCHILE Viereck, p. 1134

***melittoides*** (Viereck). Conn. to Ga., Tenn. Taken on flowers of *Polycodium*, *Xolisma* and *Zenobia*.

#### HESPERAPIS subgenus PANURGOMIA Viereck, p. 1135

***fulvipes*** Crawford.

Biology: Hurd, 1957. Kans. Ent. Soc. Jour. 30: 10.

***regularis*** (Cresson). Visiting *Chorizantha douglasi* for nectar, and *Clarkia unguiculata* for pollen.

Biology: Burdick and Torchio, 1959. Kans. Ent. Soc. Jour. 32: 83-87, 7 figs.

#### MACROPIS subgenus MACROPIS Panzer, p. 1136

***ciliata*** Patton. Wis. to Que. and Maine, south to Ga. Taken on flowers of *Apocynum*, *Houstonia*, and *Hydrangea*. Remove ***nuda*** (Provancher) from syn. (a valid sp.).

***morsei*** Robertson. Syn. of ***nuda*** (Provancher).

**nuda** (Provancher). Colo., Mont., and south. Canada to N. Y., New England States, and N. S. Taken on flowers of *Apocynum*, *Geranium*, *Rubus*, and *Vaccinium*.

**Macropis (Macropis) ciliata** Patton of Catalog, in part. **M. nuda** not a syn. (teste Mitchell, 1960. N. C. Agr. Expt. Sta. Tech. Bull. 141: 527).

**Macropis (Macropis) morsei** Robertson (syn. by Mitchell, 1960, *loc. cit. supra*, p. 527).

**patellata** Patton. Vt. to N. C., west to Nebr. and Mo. Taken on flowers of *Steironema*.

**steironematis steironematis** Robertson. Iowa and Mo. to Va., N. C., and Ga. Taken on flowers of *Apocynum*, *Ceanothus*, *Melilotus*, *Serjocarpus*, and *Steironema*.

## Family MEGACHILIDAE

LITHURGE subgenus LITHURGOPSIS Fox, pp. 1136–1137

**bruesi** Mitchell. Ill. to Tex.; Mexico.

**echinocacti** Cockerell. Mexico (Sonora, Baja California).

\*Genus TRACHUSOMIMUS Popov

(= *Trachusa* Panzer, of Catalog, p. 1137)

**Trachusomimus** Popov, 1964. Rev. Ent. URSS 43: 406.

Type: *Trachusa perdita* Cockerell. Orig. desig.

Revision: Thorp, 1963. Pan-Pacific Ent. 39: 56–58.

*Trachusa* Panzer does not occur in North America. The species listed in the Catalog were transferred to *Trachusomimus* Popov by Popov (*loc. cit. supra*). Change specific endings to masculine.

\***gummifer** (Thorp), n. comb. Calif. (Marin and San Francisco Counties).

**Trachusa gummifera** Thorp, 1963. Pan-Pacific Ent. 39: 56. ♀, ♂.

Genus HETERANTHIDIUM Cockerell, pp. 1137–1138

**dorsale** (Lepelletier). On flowers of *Strophostyles*.

**fontemvitae** Schwarz. N. C. to Fla. On flowers of *Chrysopsis* and *Kuhnis-tera*.

**ridingsii** (Cresson). On flowers of *Crotalaria*, *Galactia*, *Hypericum*, *Melilotus* and *Rhus*.

**zebratum chippewaense** (Graenicher). Minn. (Pine Co.).

Taxonomy: Schwarz, 1957. Kans. Ent. Soc. Jour. 30: 135.

**zebratum zebratum** (Cresson). Oreg.

Taxonomy: Stephen and Torchio, 1961. Pan-Pacific Ent. 37: 41–43.

PARANTHIDIUM subgenus PARANTHIDIUM Cockerell and Cockerell, p. 1138

\***jugatorium butleri** Snelling. Ariz. On flowers of *Erigeron* and *Helianthus*.

**Paranthidium jugatorium butleri** Snelling, 1962. Pan-Pacific Ent. 38: 225. ♀, ♂.

**jugatorium jugatorium** (Say). On flowers of *Helianthus*.

**jugatorium lepidum** (Cresson). Ky. On flowers of *Helenium*, *Helianthus*, *Rudbeckia* and *Silphium*.

ANTHIDIUM subgenus ANTHIDIUM Fabricius, pp. 1139–1143

**maculifrons** Smith. On flowers of *Azalia*, *Asclepias*, *Bidens*, *Coreopsis*, *Cracca*, *Crotalaria*, *Galactia*, *Galax*, *Phaseolus*, and *Psoralea*.

\***pallidiclypeum** Jaycox. Southern Calif. On flowers of *Ceanothus*, *Collinsia*, *Lotus*, and *Salazaria*.

*Anthidium pallidicypeum* Jaycox, 1963. Pan-Pacific Ent. 39: 267, 5 figs.  
♂, ♀.

\**palmarum micheneri* Schwarz. Tex., Ariz. On flowers of *Phacelia* and *Sphaeralcea*.

*Anthidium palmarum micheneri* Schwarz, 1957. Kans. Ent. Soc. Jour. 30: 132. ♂, ♀.

*palmarum palmarum* Cockerell, changed status.

*Anthidium palmarum* Cockerell. Reduced to subsp. rank (*teste* Schwarz, 1957, *loc. cit. supra*, p. 132).

*porterae* Cockerell. Ariz. On flowers of *Asclepias*, *Erigeron*, *Pentstemon*, *Phacelia*, and *Psilostrophe*.

*psoraleae* Robertson. Kans. On flowers of *Astragalus*, *Lobelia*, *Psoralea*, *Trifolium*, and *Verbena*.

Genus **CALLANTHIDIUM** Cockerell, p. 1143

*formosum* (Cresson). Ariz. (Oak Creek Canyon).

Genus **DIANTHIDIUM** Cockerell, pp. 1143–1145

*cressonii* (Dalla Torre). Nev., Ariz., N. Mex.

*curvatum curvatum* (Smith). Fla. On flowers of *Aster*, *Chrysopsis*, *Helenium*, *Koellia* and *Psoralea*.

*curvatum floridiense* Schwarz. Raised to specific rank.

*curvatum xerophilum* (Cockerell). Ariz. (Apache Pass).

*discors* Timberlake. Ariz.

*floridiense* Schwarz, changed status. On flowers of *Bidens* and *Sabal*.

*Dianthidium curvatum floridiense* Schwarz. Raised to sp. rank (*teste* Mitchell, 1962, *loc. cit. supra*, p. 16). Change spelling from *floridense* to *floridiense*.

*heterulkei fraternum* Timberlake. Tex., Nev.

*heterulkei heterulkei* Schwarz. Utah.

*implicatum* Timberlake. Nev., Ariz., N. Mex., Tex.; Mexico (Chihuahua). On flowers of *Cerallia* and *Gutierrezia*.

Taxonomy: Grigarick and Stange, 1964. Pan-Pacific Ent. 40: 152 (♂).

\**marshi* Grigarick and Stange. Calif. (Inyo Co.). On flowers of *Eriastrum densifolium*.

*Dianthidium marshi* Grigarick and Stange, 1964. Pan-Pacific Ent. 40: 149, figs. 1, 2, 3, 10, 11. ♂, ♀.

\**parkeri* Grigarick and Stange. Ariz., Tex.; Mexico (Sonora, Sinaloa, Durango). On flowers of *Verbesina encelioides*.

*Dianthidium parkeri* Grigarick and Stange, 1964. Pan-Pacific Ent. 40: 150, figs. 4, 5, 6, 12. ♂, ♀.

*parvum parvum* (Cresson). Nev.

*platyurum baculifrons* Cockerell. South. Calif. (cismontane area).

*platyurum mohavense* Timberlake. Calif. (Mojave Desert).

*platyurum platyurum* Cockerell. Reinstate in Catalog (*teste* P. H. Timberlake *in litt.*). Ariz., Nev., south. Calif. (Colorado Desert); Baja California.

*plenum plenum* Timberlake. Nev.

*pudicum decorum* Timberlake. Change 1934 to 1943 in bibliographic citation.

*simile* (Cresson). Minn. to Ont. and Maine, south to Ga. On flowers of *Aster*.

*subparvum subparvum* Swenk. Nev.

*subrufulum* Timberlake. Tex.

**ulkei perterritum** Cockerell. Ariz., Nebr.

Genus **ANTHIDIELLUM** Cockerell, p. 1146

Taxonomy: Schwarz, 1957. Kans. Ent. Soc. Jour. 30: 137 (key to spp. of *notatum* complex).

**notatum boreale** (Robertson). On flowers of *Verbena*.

**notatum notatum** (Latreille). Mass. to Ill., south to Fla. and Miss. Visits many flowers, almost entirely Compositae and Leguminosae.

**notatum robertsoni** (Cockerell).

Biology: Linsley, 1962. Ent. Soc. Amer. Ann. 55: 159-160, figs. 6-7.

**notatum rufimaculatum** Schwarz. On flowers of *Rhus*.

**perplexum** (Smith). Visits many flowers, principally Compositae and Leguminosae, but a scattering also in other families.

Genus **HETEROSTELIS** Timberlake, p. 1146

**australis australis** (Cresson), changed status. N. J. to Ga. On flowers of *Helenium*.

**Heterostelis australis** (Cresson). Reduced to subsp. rank (*teste* Mitchell, 1962, *loc. cit. supra*, p. 33).

\***australis floridensis** Mitchell. Fla. On flowers of *Eriogonum* and *Rhus*.

**Heterostelis australis floridensis** Mitchell, 1962. N. C. Agr. Expt. Sta. Tech. Bull. 152: 33, fig. 11. ♀, ♂.

\***grossa** Mitchell. Fla. (Gainesville).

**Heterostelis grossa** Mitchell, 1962. N. C. Agr. Expt. Sta. Tech. Bull. 152: 35. ♀.

STELIS subgenus **PROTOSTELIS** Friese, p. 1147

**costalis costalis** Cresson, changed status. Va. and Ky., south to Fla. and Tex. On many flowers, chiefly Compositae.

**Stelis (Protostelis) costalis** Cresson. Reduced to subsp. rank (*teste* Mitchell, 1962, *loc. cit. supra*, p. 37).

**Stelis (Protostelis) louisae** Cockerell (syn. by Mitchell, 1962, *loc. cit. supra*, p. 37).

**costalis floridana** Graenicher, changed status. On flowers of *Bidens* and *Melilotus*.

**Stelis (Protostelis) floridana** Graenicher. Reduced to subsp. rank (*teste* Mitchell, 1962, *loc. cit. supra*, p. 38).

**floridana** Graenicher. A subsp. of **costalis** Cresson.

**louisae** Cockerell. Syn. of **costalis costalis** Cresson.

STELIS subgenus **MICROSTELIS** Robertson, p. 1147

**birkmanni** Cockerell. Transfer to **Stelis** subg. **Chelynia** Provancher, p. 1148, as a questionable syn. of **labiata** (Provancher).

**lateralis** Cresson. Maine and Ont. to N. Dak., south to Ga. and Tex. On many flowers, principally Compositae. Remove **plena** (Provancher), a valid sp., from syn.

**plena** (Provancher). Ont. (Ottawa).

**Stelis (Microstelis) lateralis** Cresson of Catalog, in part. **S. plenum** not a syn. (*teste* Mitchell, 1962, *loc. cit. supra*, p. 43).

**sexmaculata** Ashmead. Hosts: *Hoplitis (Alcidamea) brachyodonta* (Ckl.), *H. (A.) colei* (Cwfd.).

\***vernalis** Mitchell. Pa., N. C., Mich., Minn.

**Stelis (Microstelis) vernalis** Mitchell, 1962. N. C. Agr. Expt. Sta. Tech. Bull. 152: 43. ♀, ♂.

STELIS subgenus **PAVOSTELIS** Sladen, pp. 1147-1148

\***ater** Mitchell. Fla. On flowers of *Cirsium*.

***Stelis (Pavostelis) ater*** Mitchell, 1962. N. C. Agr. Expt. Sta. Tech. Bull. 152: 39. ♀.

**diversicolor** Crawford. Tenn. On flowers of *Rubus*.

**STELIS subgenus CHELYNIA** Provancher, pp. 1148–1149

(= *Chelynia* subgenus *Chelynia* Provancher of Catalog)

This taxon and the subgenera included under it in the Catalog are considered to be subgenera of ***Stelis*** (teste Mitchell, 1962, *loc. cit. supra*, p. 36).

**birkmanni** Cockerell. Possibly a syn. of ***labiata*** (Provancher).

**foederalis** Smith. N. B. to Minn., south to Ga. and Colo. On flowers of *Chrysanthemum*.

**labiata** (Provancher). Que. to Wis., south to N. C. On flowers of *Ranunculus* and *Rubus*. Hosts: *Hoplitis (Alcidamea) producta producta* (Cr.), *H. (A.) pilosifrons* (Cr.) and *Robertsonella simplex* (Cr.).

?***Stelis (Microstelis) birkmanni*** Cockerell (syn. questionably by Mitchell, 1962, *loc. cit. supra*, p. 40).

\***michiganensis** Mitchell. Mich. (Luce Co.).

***Stelis michiganensis*** Mitchell, 1962. N. C. Agr. Expt. Sta. Tech. Bull. 152: 45. ♀.

**nitida** Cresson. On flowers of *Chrysanthemum*.

\***semirubra reducta** Snelling. Calif. (Tuolumne and Mariposa counties). On flowers of *Cryptantha*.

***Stelis (Chelynia) semirubra reducta*** Snelling, 1962. Pan-Pacific Ent. 38: 227. ♀, ♂.

**STELIS subgenus MELANOSTELIS** Ashmead, p. 1149

**rubi** Cockerell. B. C.

**STELIS subgenus STELIDIUM** Robertson, pp. 1149–1150

**trypetina** (Robertson). Va. On flowers of *Aster*, *Erigeron*, *Pycnanthemum*, *Rudbeckia* and *Solidago*.

Unrecognized Species of *Stelis* not Placed as to Subgenus

\***nigrita** (Fabricius). "Habitat in America."

***Andrena nigrita*** Fabricius, 1775. Systema Ent., p. 377.

**Genus DIOXY5** Lepeletier and Serville, pp. 1150–1151

Revision: Hurd, 1958. Calif. Univ. Pubs. Ent. 14: 275–302, 28 figs., 4 maps.

**aurifuscus** (Titus). Colo., Calif., Oreg. Hosts: ? *Anthidium* sp., ? *Callanthidium illustre* (Cr.).

Biology: Cockerell, 1909. Canad. Ent. 41: 334.—Hicks, 1929. Canad. Ent. 61: 8.

**catalinensis** Cockerell. Syn. of ***pomona pomona*** Cockerell.

**martii** Cockerell. Syn. of ***productus subruber*** Cockerell.

\***pacificus melanogaster** Hurd. Mts. of southern Calif.

***Dioxy5 pacificus melanogaster*** Hurd, 1958. Calif. Univ. Pubs. Ent. 14: 296. ♀, ♂.

**pacificus pacificus** Cockerell, changed status. Calif. (except mts. of southern Calif.), Oreg., Nev., Utah, Wyo.

***Dioxy5 pacificus*** Cockerell (reduced to subsp. rank, teste Hurd, 1958, *loc. cit. supra*, p. 295).

**phaceliae** Cockerell. Syn. of ***pomona pomona*** Cockerell.

**pomona pomona** Cockerell, changed status. N. Mex., Colo., Idaho, Utah, Ariz., Calif. (except deserts), Oreg. Hosts: *Anthidium collectum* Huard, *Megachile subexilis* Ckll., *Osia nifoata* Ckll.

*Dioxys pomonae* Cockerell (reduced to subsp. rank, *teste* Hurd, 1958, *loc. cit. supra*, p. 283).

*Dioxys phaceliae* Cockerell (syn. by Hurd, *loc. cit. supra*, p. 283).

*Dioxys catalinensis* Cockerell (syn. by Hurd, *loc. cit. supra*, p. 283).

\**pomonae timberlakei* Hurd. Southern Calif., deserts.

*Dioxys pomonae timberlakei* Hurd, 1958. Calif. Univ. Pubs. Ent. 14: 285. ♀, ♂.

\**productus cismontanicus* Hurd. Pacific slope of Calif.; Mexico (Baja Calif.). Host: *Anthidium c. collectum* Huard.

*Dioxys productus cismontanicus* Hurd, 1958. Calif. Univ. Pubs. Ent. 14: 290. ♀, ♂.

*productus productus* (Cresson), changed status. Great Basin of Calif., Nev., Oreg., Utah.

*Dioxys producta* (Cresson) of Catalog, in part (*producta* reduced to subsp. rank and *productus* var. *subruber* Cockerell deleted from syn. and made a valid subsp., *teste* Hurd, 1958, *loc. cit. supra*, p. 287).

*productus subruber* (Cockerell), changed status. Calif. deserts, Ariz., N. Mex., western Tex. Host: ? *Anthidium paroselae* Ckll.

*Dioxys producta* (Cresson) of Catalog, in part (*subruber* removed from syn. and made a valid subsp., *teste* Hurd, 1958, *loc. cit. supra*, p. 289).

*Dioxys martii* Cockerell (syn. by Hurd, 1958, *loc. cit. supra*, p. 289).

Biology: Newberry, 1900. Psyche 9: 94.

### Tribe MEGACHILINI

Taxonomy: Michener and Sokal, 1957. Evolution 11: 130-162, 15 figs., 4 tables (genera of *Hoplitis* complex).

#### Genus PROCHELOSTOMA Robertson, p. 1152

*philadelphi* (Robertson). Conn. Nests in deserted anobiid borings. Visits a number of flowers in different families.

Biology: Krombein, 1959. Ent. News 70: 135-136.

#### HERIADES subgenus NEOTRYPTETES Robertson, p. 1152

*leavitti* Crawford, changed status. N. B. to Wyo., south to Fla. and Tex. On many flowers, mainly Compositae.

*Heriades (Neotryptetes) leavitti crawfordi* Graenicher (syn. by Mitchell, 1962, *loc. cit. supra*, p. 50).

*leavitti crawfordi* Graenicher. Syn. of typical *leavitti* Crawford.

*variolosa variolosa* (Cresson). Maine to B. C., south to Fla. and Tex. Visits flowers of many families, but principally Compositae.

#### HERIADES subgenus PHYSOSTETHA Michener, pp. 1152-1153

*carinata* Cresson. Maine, Fla. On flowers of many families.

#### ASHMEADIELLA subgenus ASHMEADIELLA Cockerell, pp. 1153-1155

*Ashmeadiella* subg. *Titusella* Cockerell syn. under subg. *Ashmeadiella* by Michener and Sokal, 1957, Evolution 11: 159, and component spp. transf.

*aridula astragali* Michener.

Morphology: Snelling, 1962. Pan-Pacific Ent. 38: 229-230, fig. 1 (intersex).

*biscopula* Michener. Transf. from *Ashmeadiella* subg. *Titusella* Cockerell, p. 1155.

*bucconis bucconis* (Say). Ga., Ill. On flowers of *Brauneria*, *Coreopsis*, *Helianthus*, *Solidago*, *Verbena* and *Verbesina*.

- cubiceps clypeata** (Michener). Transf. from *Ashmeadiella* subg. *Titusella* Cockerell, p. 1155.
- cubiceps cubiceps** (Cresson). Transf. from *Ashmeadiella* subg. *Titusella* Cockerell, p. 1155.
- difugita emarginatula** Michener. Calif. (Kern Co.). On flowers of *Clarkia*.
- floridana** (Robertson). On flowers of *Lupinus*.
- pronitens** (Cockerell). Transf. from *Ashmeadiella* subg. *Titusella* Cockerell, p. 1155.
- titusi** Michener. Calif. (Sierra Nevada Mts.).

*Ashmeadiella* subgenus *Titusella* Cockerell, p. 1155

Syn. under subg. *Ashmeadiella* Cockerell, p. 1153, and component forms transferred to that subgenus.

*ASHMEADIELLA* subgenus *AROGCHILA* Michener, pp. 1155–1156

*Ashmeadiella* subg. *Corythochila* Michener syn. under subg. *Arogochila* by Michener and Sokal, 1957. Evolution 11: 159 and component spp. transf. (*Rhamphorhina*, pp. 135 and 159, is a lapsus for *Corythochila*; prior usage was in Michener, 1939. Amer. Midland Nat. 22: 8.)

- australis** (Cockerell). Calif. (Stanislaus Co.).
- breviceps** Michener. Transf. from *Ashmeadiella* subg. *Corythochila* Michener, p. 1156.
- inyoensis** Michener. Transf. from *Ashmeadiella* subg. *Corythochila* Michener, p. 1156.
- \*micheneri** Snelling. Calif. (Stanislaus and Mariposa counties). On flowers of *Phacelia*.
- Ashmeadiella* (*Arogochila*) **micheneri** Snelling, 1962. Pan-Pacific Ent. 38: 231, fig. 2. ♂, ♀.

*Ashmeadiella* subgenus *Corythochila* Michener, p. 1156

Syn. under *Ashmeadiella* subg. *Argochila* Michener, p. 1155, and component forms transferred to that subgenus.

*HOPLITIS* subgenus *FORMICAPIS* Sladen, p. 1156

- clypeata** (Sladen). Que.

*HOPLITIS* subgenus *ROBERTSONELLA* Titus, p. 1157

- gleasoni** (Titus). Tex. to Ill. and N. J. On flowers of *Geranium*, *Phacelia*, and *Rubus*.
- Robertsonella simplex simplex* (Cresson) of Catalog, in part. *R. gleasoni* not a syn. (*teste* Mitchell, 1962, *loc. cit. supra*, p. 65).
- Robertsonella simplex crataegina* Cockerell. Syn. by Mitchell, 1962, *loc. cit. supra*, p. 65.
- \*micheneri** Mitchell. Kans., Ga. On flowers of *Amorpha*.
- Hoplitis* (*Robertsonella*) **micheneri** Mitchell, 1962. N. C. Agr. Expt. Sta. Tech. Bull. 152: 64, fig. 25. ♀, ♂.
- simplex** (Cresson), changed status. Tex. to Conn. On flowers of *Phacelia* and *Salix*.
- Robertsonella simplex simplex* Cresson. *R. gleasoni* removed from syn. and *R. simplex* raised to sp. rank (*teste* Mitchell, 1962, *loc. cit. supra*, p. 66).
- simplex crataegina** Cockerell. Syn. of **gleasoni** (Titus).

*HOPLITIS* subgenus *HOPLITINA* Cockerell, p. 1157

Transf. with component forms to *Proteriades* Titus, p. 1160, as a valid subgenus (*teste* Michener and Sokal, 1957. Evolution 11: 158).



**HOPLITIS subgenus ALCIDAMEA Cresson, pp. 1157–1158**

**pilosifrons** (Cresson). On flowers of many families, but principally Leguminosae, Compositae, Labiatae, and Scrophulariaceae.

**producta producta** (Cresson). Nests in sumac borings. On a number of flowers, but principally Leguminosae.

Biology: Medler, 1961. *Canad. Ent.* 93: 571-573.

**truncata truncata** (Cresson). On flowers of several families, principally Leguminosae.

**HOPLITIS subgenus ACROSMIA Michener, p. 1159**

Transf. with component forms to **Proteriades** Titus, p. 1160, as a valid subgenus (*teste* Michener and Sokal, 1957. *Evolution* 11: 158).

**HOPLITIS subgenus MONUMETHA Cresson, p. 1159**

**albifrons albifrons** (Kirby). On flowers of *Phacelia*.

**HOPLITIS subgenus CHLOROSMIA Sladen, p. 1159**

**fulgida fulgida** (Cresson). B. C.

**HOPLITIS subgenus ANDRONICUS Cresson, p. 1159**

**cylindrica** (Cresson). Fla. On flowers of many families, principally Leguminosae, Compositae, and Labiatae.

**Genus PROTERIADES Titus, p. 1160****PROTERIADES subgenus CEPHALAPIS Cockerell**

(= *Proteriades* Titus, in part, of Catalog, p. 1160)

Restored to subgeneric rank (*teste* Michener and Sokal, 1957. *Evolution* 11: 158); includes only the genotype, **jacintana** (Cockerell).

**PROTERIADES subgenus PROTERIADES Titus**

(= *Proteriades* Titus, in part, of Catalog, p. 1160)

Reduced to subgeneric rank (*teste* Michener and Sokal, 1957. *Evolution* 11: 158); includes only the genotype, **jacintana** (Cockerell) except for those listed below.

**incanescens** (Cockerell). Transf. to **Proteriades** subg. **Penteriades** Michener and Sokal (*teste* Michener and Sokal, 1957. *Evolution* 11: 158).

**jacintana** (Cockerell). Transf. to **Proteriades** subg. **Cephalapis** Cockerell (*teste* Michener and Sokal, 1957. *Evolution* 11: 158).

**remotula** (Cockerell). Transf. to **Proteriades** subg. **Penteriades** Michener and Sokal (*teste* Michener and Sokal, 1957. *Evolution* 11: 158).

**xerophila** (Cockerell). Transf. to **Proteriades** subg. **Xerosmia** Michener (*teste* Michener and Sokal, 1957. *Evolution* 11: 158).

**PROTERIADES subgenus XEROSMIA Michener**

Restored to subgeneric rank (*teste* Michener and Sokal, 1957. *Evolution* 11: 158); includes only the genotype, **xerophila** (Cockerell).

**\*PROTERIADES subgenus PENTERIADES Michener and Sokal**

**Proteriades** subg. **Penteriades** Michener and Sokal, 1957. *Evolution* 11: 158.

Type: *Osmia remotula* Cockerell. Orig. desig.

Insert following **Proteriades** Titus, p. 1160.

**incanescens** (Cockerell). Transf. from **Proteriades** Titus, *sens. lat.*

**remotula** (Cockerell). Transf. from **Proteriades** Titus, *sens. lat.*

## PROTERIADES subgenus ACROSMIA Michener

Transferred with component forms from genus *Hoplitis* Klug, Catalog, p. 1159 and Sup. 1, p. 238.

## PROTERIADES subgenus HOPLITINA Cockerell

Transferred with component forms from genus *Hoplitis* Klug, Catalog, p. 1157 and Sup. 1, p. 238.

ANTHOCOPA subgenus EREMOSMIA Michener, p. 116<sup>1</sup>

*hurdiana* Michener. Transf. to subg. *Isosmia* Michener and Sokal (*teste* Michener and Sokal, 1957. Evolution 11: 159).

*rubrella* Michener. Transf. to subg. *Isosmia* Michener and Sokal (*teste* Michener and Sokal, 1957. Evolution 11: 159).

## \*ANTHOCOPA subgenus ISOSMIA Michener and Sokal

*Anthocopa* subg. *Isosmia* Michener and Sokal, 1957. Evolution 11: 159.

Type: *Anthocopa (Phaeosmia) rubrella* Michener. Orig. designation.

Insert after subg. *Eremosmia*, p. 1161.

*hurdiana* Michener. Transf. from subg. *Eremosmia* Michener.

*rubrella* Michener. Transf. from subg. *Eremosmia* Michener.

## Genus DICERATOSMIA Robertson, p. 1162

Transfer to genus *Osmia* Panzer as a subgenus (*teste* Sinha, 1958. Kans. Univ. Sci. Bul. 39: 212). In citation of original description of *Dicera-tosmia* change Ent. Soc. Amer. Trans. to Amer. Ent. Soc. Trans.

## Genus OSMIA Panzer, pp. 1163-1172

Taxonomy: Sinha, 1958. Kans. Univ. Sci. Bul. 39: 211-261, 151 figs. (reclassification of New World subgenera).

## OSMIA subgenus OSMIA Panzer, p. 1163

*lignaria lignaria* Say. Nests in abandoned mud-dauber cells, carpenter bee tunnels and borings in wood. Visits vernal flowers of a number of families.

Biology: Rau, 1937. Ent. Soc. Amer. Ann. 30: 324-342, 1 pl.—Chandler, 1959 (1958). Ind. Acad. Sci. Proc. 68: 199-204.—Balduf, 1961. Brooklyn Ent. Soc. Bul. 56: 83-84.—Krombein, 1962. Biol. Soc. Wash. Proc. 75: 239-242, pl. 1.—Chandler, 1962. Ent. Soc. Amer., North Central Branch Proc. 16: 18-19.

## OSMIA subg. CHALCOSMIA Schmiedeknecht, pp. 1163-1164

*chalybea* Smith. On flowers of *Ceanothus*, *Cirsium* and *Vaccinium*.

*coerulescens* (Linnaeus). N. S. to Minn. south to N. C. and Ill. On flowers of *Philadelphus*, *Salvia*, *Trifolium* and *Vicia*.

*georgica* Cresson. Mass. to Mich., south to Ga. and Tex. On flowers of many families, principally Compositae and Rosaceae.

*texana* Cresson. Mich., N. Y., Fla. Nests in abandoned cells of *Anthophora occidentalis* Cr. in clay bank.

Biology: Hobbs, Nummi and Virostek, 1961. Canad. Ent. 93: 143.

## OSMIA subgenus CEPHALOSMIA Sladen, p. 1164

*subaustralis subaustralis* Cockerell. ? Mich.

## OSMIA subgenus CENTROSMIA Robertson

(= *Osmia* subg. *Melanosmia* Schmiedeknecht, pp. 1164-1165)

Revision: Sinha and Michener, 1958. Kans. Univ. Sci. Bul. 39: 275-303.

The subgenus *Melanosmia* does not occur in North America (*teste* Sinha, 1958, *loc. cit. supra*, p. 212).

*austromaritima* Michener. Transf. from subg. *Nothosmia* Ashmead, p. 1167 (*teste* Sinha, 1958, *loc. cit. supra*, p. 243).

*bakeri* Sandhouse. Transf. from subg. *Nothosmia* Ashmead, p. 1167 (*teste* Sinha, 1958, *loc. cit. supra*, p. 244).

*bucephala* Cresson, changed status. Visits vernal flowers of many families. Delete *tarsata* Prov., a valid sp., from syn.

*Osmia* (*Melanosmia*) *bucephala bucephala* Cresson. Raised to sp. rank (*teste* Sinha and Michener, 1958, *loc. cit. supra*, p. 278).

*Osmia* (*Melanosmia*) *bucephala subornata* Cockerell. (Syn. by Sinha and Michener, 1958, *loc. cit. supra*, p. 278).

*bucephala subornata* Cockerell. Syn. of *bucephala* Cresson.

*inermis* (Zetterstedt). Transf. to subg. *Chenosmia* Sinha.

*nigriventris* (Zetterstedt). Minn. Delete *xanthomelaena* Smith, a valid Palaearctic sp., from syn.

*pikei* Cockerell. Transf. from subg. *Nothosmia* Ashmead, p. 1170 (*teste* Sinha, 1958, *loc. cit. supra*, p. 244).

*Osmia* (*Nothosmia*) *integrella* Cockerell (syn. by Sinha and Michener, 1958, *loc. cit. supra*, p. 294).

*Osmia* (*Nothosmia*) *universitatis* Cockerell (syn. by Sinha and Michener, 1958, *loc. cit. supra*, p. 294).

\**raritatis* Michener. Colo., Wash., Calif.

*Osmia raritatis* Michener, 1957. Kans. Ent. Soc. Jour. 30: 40, figs. 1, 3, 5. ♂.

*tanneri* Sandhouse. Transf. from subg. *Nothosmia* Ashmead, p. 1171 (*teste* Sinha, 1958, *loc. cit. supra*, p. 244).

*tarsata* Provancher, changed status. Que.

*Osmia* (*Melanosmia*) *bucephala bucephala* Cresson of Catalog, in part. *O. tarsata* Prov. is a valid sp. (*teste* Mitchell, 1962, *loc. cit. supra*, p. 78).

\**thysanisca* Michener. Oreg., Wyo. On flowers of *Trifolium*.

*Osmia thysanisca* Michener, 1957. Kans. Ent. Soc. Jour. 30: 39, fig. 2. ♂.

*vandykei* Sandhouse. Transf. from subg. *Nothosmia* Ashmead, p. 1171 (*teste* Sinha, 1958, *loc. cit. supra*, p. 244).

#### OSMIA subgenus ACANTHOSMIOIDES Ashmead, pp. 1165–1166

*hendersoni* Cockerell. Cancel transfer to subg. *Melanosmia* Schmiedeknecht (Sup. 1, p. 242) and transf. to subg. *Monilosmia* Robertson (*teste* Sinha, 1958, *loc. cit. supra*, p. 241).

*integra integra* Cresson. ? Mich.

*kenoyeri* Cockerell. Cancel transfer to subg. *Melanosmia* Schmiedeknecht, (Sup. 1, p. 243) (*teste* Sinha, 1958, *loc. cit. supra*, p. 239).

*liogastra* Cockerell. Transf. to subg. *Nothosmia* Ashmead, p. 1169.

*lupinicola* Cockerell. Transf. to subg. *Nothosmia* Ashmead, p. 1169.

*morongana* Cockerell. Transf. to subg. *Nothosmia* Ashmead, p. 1169.

*prunorum* Cockerell. Transf. to subg. *Nothosmia* Ashmead, p. 1170.

#### OSMIA subgenus NOTHOSMIA Ashmead, pp. 1167–1171

Delete *Monilosmia* Robertson from synonymy and place it as a valid subgenus after subgenus *Nothosmia* Ashmead, p. 1171.

*albiventris* Cresson. Ga. On flowers of several families, mainly Leguminosae and Rosaceae.

*albolateralis albolateralis* Cockerell. Transf. to subg. *Monilosmia* Robertson.

- albolateralis visenda* Sandhouse. Transf. to subg. **Monilosmia** Robertson.
- atriventris* Cresson. Transf. to subg. **Chenosmia** Sinha.
- atrocyanea atrocyanea* Cockerell. Transf. to subg. **Monilosmia** Robertson.
- atrocyanea putata* Cockerell. Transf. to subg. **Monilosmia** Robertson.
- austromaritima* Michener. Transf. to subg. **Centrosmia** Robertson.
- bakeri* Sandhouse. Transf. to subg. **Centrosmia** Robertson.
- brevis brevis* Cresson. Transf. to subg. **Monilosmia** Robertson.
- brevis peridonea* Sandhouse. Transf. to subg. **Monilosmia** Robertson.
- bridwelli* Sandhouse. Transf. to subg. **Monilosmia** Robertson.
- bruneri* Cockerell. Transf. to subg. **Chenosmia** Sinha.
- calla* Cockerell. Transf. to subg. **Chenosmia** Sinha.
- cara* Cockerell. Transf. to subg. **Monilosmia** Robertson.
- caulicola* Cockerell. Transf. to subg. **Chenosmia** Sinha.
- cerasi* Cockerell. Transf. to subg. **Chenosmia** Sinha.
- claremontensis* Michener. Transf. to subg. **Euthosmia** Sinha.
- clarescens* Cockerell. Transf. to subg. **Chenosmia** Sinha.
- cobaltina* Cresson. Transf. to subg. **Chenosmia** Sinha.
- cockerelli* Sandhouse. (? **Chenosmia**)
- collinsiae* Robertson. Transf. to subg. **Chenosmia** Sinha.
- cordata* Robertson. Ohio, Ind. Nests in abandoned mud-dauber cells, and in borings in wood. On flowers of several families.  
Biology: Chandler, 1959 (1958). Indiana Acad. Sci. Proc. 68: 199-204.—Chandler, 1962. Ent. Soc. Amer., North Central Branch Proc. 16: 18-19.
- cyanella* Cockerell. Transf. to subg. **Monilosmia** Robertson.
- cyaneonitens* Cockerell. Transf. to subg. **Monilosmia** Robertson.
- cyanopoda* Cockerell. Transf. to subg. **Chenosmia** Sinha.
- densa densa* Cresson. Transf. to subg. **Monilosmia** Robertson.
- densa pogonigera* Cockerell. Transf. to subg. **Monilosmia** Robertson.
- distincta* Cresson. Visits vernal flowers of several families.
- dolorosa* Sandhouse. Transf. to subg. **Chenosmia** Sinha.
- exigua* Cresson. Transf. to subg. **Chenosmia** Sinha.
- felti* Cockerell. (? **Monilosmia**)
- gabrielis* Cockerell. Transf. to subg. **Monilosmia** Robertson.
- gaudiosa* Cockerell. Transf. to subg. **Chenosmia** Sinha.
- glauca* (Fowler). Transf. to subg. **Euthosmia** Sinha.
- hemera* Sandhouse. (? **Chenosmia**)
- hesperos* Sandhouse. (? **Monilosmia**)
- illinoensis* Robertson. Transf. to subg. **Chenosmia** Sinha.
- indepressa* Sandhouse. Transf. to subg. **Chenosmia** Sinha.
- inspergens* Lovell and Cockerell. Ga. On flowers of *Baptisia*, *Polycodium*, *Trifolium* and *Vaccinium*.
- integrella* Cockerell. Transf. to subg. **Centrosmia** Robertson as a syn. of **pikei** Cockerell.
- inurbana* Cresson. (? **Chenosmia**)
- iridis* Cockerell and Titus. (? **Monilosmia**)

- juxta juxta* Cresson. Transf. to subg. **Monilosmia** Robertson.
- juxta subpurpurea* Cockerell. Transf. to subg. **Monilosmia** Robertson.
- kincaidii* Cockerell. Transf. to subg. **Chenosmia** Sinha.
- lacus* Sandhouse. (? **Chenosmia**)
- laeta* Sandhouse. Transf. to subg. **Chenosmia** Sinha.
- latisulcata* Michener. Transf. to subg. **Trichinosmia** Sinha.
- liogastra* Cockerell. Transf. from subg. **Acanthosmioides** Ashmead, p. 1166 (teste Sinha, 1958, loc. cit. supra, p. 232).
- lupinicola* Cockerell. Transf. from subg. **Acanthosmioides** Ashmead, p. 1166 (teste Sinha, 1958, loc. cit. supra, p. 232).
- malina* Cockerell. Transf. to subg. **Chenosmia** Sinha.
- mertensiae* Cockerell. (? **Chenosmia**)
- \**michiganensis* Mitchell. Mich. (Grand Traverse Co.).  
*Osmia* (**Nothosmia**) *michiganensis* Mitchell, 1962. N. C. Agr. Expt. Sta. Tech. Bull. 152: 92. ♂.
- morongana* Cockerell. Transf. from subg. **Acanthosmioides** Ashmead, p. 1166 (teste Sinha, 1958, loc. cit. supra, p. 232).
- nanula* Cockerell. Transf. to subg. **Chenosmia** Sinha.
- nemoris* Sandhouse. Transf. to subg. **Euthosmia** Sinha.
- pagosa* Sandhouse. Transf. to subg. **Chenosmia** Sinha.
- paradisica* Sandhouse. (? **Monilosmia**)
- pentstemonis* Cockerell. Transf. to subg. **Chenosmia** Sinha.
- pikiei* Cockerell. Transf. to subg. **Centrosmia** Robertson.
- pingreeana* Michener. Transf. to subg. **Chenosmia** Sinha.
- potentillae* Michener. Transf. to subg. **Chenosmia** Sinha.
- proxima* Cresson. Transf. to subg. **Chenosmia** Sinha.
- prunorum* Cockerell. Transf. from subg. **Acanthosmioides** Ashmead, p. 1166 (teste Sinha, 1958, loc. cit. supra, p. 232).
- pulsatillae* Cockerell. (? **Chenosmia**)
- pumila* Cresson. Ga. On vernal flowers of many families, principally Rosaceae, Leguminosae, and Cruciferae.
- pusilla* Cresson. (? **Chenosmia**)
- ravilinsi* Sandhouse. Transf. to subg. **Monilosmia** Robertson.
- regulina* Cockerell. Transf. to subg. **Chenosmia** Sinha.
- rostrata* Sandhouse. Transf. to subg. **Monilosmia** Robertson.
- sanctaerosae* Cockerell. Transf. to subg. **Chenosmia** Sinha.
- sandhouseae* Mitchell. On vernal flowers of many families, principally Leguminosae, Ericaceae, Rosaceae, and Scrophulariaceae.
- sculleni* Sandhouse. Transf. to subg. **Monilosmia** Robertson.
- seclusa* Sandhouse. Transf. to subg. **Monilosmia** Robertson.
- sequoiae* Michener. Transf. to subg. **Chenosmia** Sinha.
- simillima* Smith. Transf. to subg. **Monilosmia** Robertson.
- tanneri* Sandhouse. Transf. to subg. **Centrosmia** Robertson.
- tersula* Cockerell. Transf. to subg. **Chenosmia** Sinha.
- titusi* Cockerell. Cancel transfer to subg. **Acanthosmioides** Ashmead (Sup. 1, p. 244) (teste Sinha, 1958, loc. cit. supra, p. 232).
- tokopahensis* Michener. Transf. to subg. **Chenosmia** Sinha.

*trevoris* Cockerell. Transf. to subg. **Chenosmia** Sinha.

*tristella cyanosoma* Cockerell. Transf. to subg. **Chenosmia** Sinha.

*tristella tristella* Cockerell. Transf. to subg. **Chenosmia** Sinha.

*universitatis* Cockerell. Transf. to subg. **Centrosmia** Robertson as a syn. of *pikiei* Cockerell.

*vandykei* Sandhouse. Transf. to subg. **Centrosmia** Robertson.

*virga* Sandhouse. Transf. to **Chenosmia** Sinha.

*zephyros* Sandhouse. Transf. to subg. **Chenosmia** Sinha.

**\*OSMIA subgenus CHENOSMIA Sinha**

**Osmia** subg. **Chenosmia** Sinha, 1958. Kans. Univ. Sci. Bul. 39: 233.

Type: **Osmia pentstemonis** Cockerell. Orig. design.

Place after subgenus **Nothosmia** Ashmead, p. 1171.

**atriventris** Cresson. On vernal flowers of a number of families, especially Leguminosae, Cruciferae and Rosaceae. Transf. from subg. **Nothosmia** Ashmead, p. 1167 (*teste* Sinha, 1958, *loc. cit. supra*, p. 235).

**bruneri** Cockerell. Transf. from subg. **Nothosmia** Ashmead, p. 1167 (*teste* Sinha, 1958, *loc. cit. supra*, p. 235).

**calla** Cockerell. Transf. from subg. **Nothosmia** Ashmead, p. 1167 (*teste* Sinha, 1958, *loc. cit. supra*, p. 235).

**caulicola** Cockerell. Transf. from subg. **Nothosmia** Ashmead, p. 1167 (*teste* Sinha, 1958, *loc. cit. supra*, p. 235).

**cerasi** Cockerell. Transf. from subg. **Nothosmia** Ashmead, p. 1167, (*teste* Sinha, 1958, *loc. cit. supra*, p. 235).

**clarescens** Cockerell. Transf. from subg. **Nothosmia** Ashmead, p. 1168 (*teste* Sinha, 1958, *loc. cit. supra*, p. 235).

**cobaltina** Cresson. Transf. from subg. **Nothosmia** Ashmead, p. 1168 (*teste* Sinha, 1958, *loc. cit. supra*, p. 235).

**collinsiae** Robertson. Minn. On flowers of many families, particularly Leguminosae and Scrophulariaceae. Transf. from subg. **Nothosmia** Ashmead, p. 1168 (*teste* Sinha, 1958, *loc. cit. supra*, p. 235).

**cyanopoda** Cockerell. Transf. from subg. **Nothosmia** Ashmead, p. 1168 (*teste* Sinha, 1958, *loc. cit. supra*, p. 235).

**dolorosa** Sandhouse. Transf. from subg. **Nothosmia** Ashmead, p. 1168 (*teste* Sinha, 1958, *loc. cit. supra*, p. 235).

**exigua** Cresson. Transf. from subg. **Nothosmia** Ashmead, p. 1168 (*teste* Sinha, 1958, *loc. cit. supra*, p. 235).

Taxonomy: Michener, 1962. Kans. Ent. Soc. Jour. 35: 253-254.

**gaudiosa** Cockerell. Ariz. Transf. from subg. **Nothosmia** Ashmead, p. 1168 (*teste* Sinha, 1958, *loc. cit. supra*, p. 235).

Taxonomy: Michener, 1962, *loc. cit. supra*, pp. 253-254.

**illinoensis** Robertson. On flowers of *Astragalus*, *Fragaria*, *Hypoxis*, *Lithospermum* and *Ranunculus*. Transf. from subg. **Nothosmia** Ashmead, p. 1169 (*teste* Sinha, 1958, *loc. cit. supra*, p. 235).

**indeprensa** Sandhouse. Transf. from subg. **Nothosmia** Ashmead, p. 1169 (*teste* Sinha, 1958, *loc. cit. supra*, p. 235).

**inermis** (Zetterstedt). On flowers of *Rubus*, *Salix* and *Vaccinium*. Transf. from subg. **Melanosmia** Schmiedeknecht, p. 1165 (*teste* Sinha, 1958, *loc. cit. supra*, p. 235).

**kincaidii** Cockerell. Transf. from subg. **Nothosmia** Ashmead, p. 1169 (*teste* Sinha, 1958, *loc. cit. supra*, p. 235).

- laeta** Sandhouse. Transf. from subg. *Nothosmia* Ashmead, p. 1169 (*teste* Sinha, 1958, *loc. cit. supra*, p. 235).
- malina** Cockerell. Transf. from subg. *Nothosmia* Ashmead, p. 1169 (*teste* Sinha, 1958, *loc. cit. supra*, p. 235).
- nanula** Cockerell. Transf. from subg. *Nothosmia* Ashmead, p. 1169 (*teste* Sinha, 1958, *loc. cit. supra*, p. 235).
- pagosa** Sandhouse. Transf. from subg. *Nothosmia* Ashmead, p. 1170 (*teste* Sinha, 1958, *loc. cit. supra*, p. 235).
- pentstemonis** Cockerell. Transf. from subg. *Nothosmia* Ashmead, p. 1170 (*teste* Sinha, 1958, *loc. cit. supra*, p. 235).
- pingreeana** Michener. Transf. from subg. *Nothosmia* Ashmead, p. 1170 (*teste* Sinha, 1958, *loc. cit. supra*, p. 235).
- potentillae** Michener. Transf. from subg. *Nothosmia* Ashmead, p. 1170 (*teste* Sinha, 1958, *loc. cit. supra*, p. 235).
- proxima** Cresson. Ga. On flowers of *Houstonia*, *Pentstemon*, *Rubus*, and *Trifolium*. Transf. from subg. *Nothosmia* Ashmead, p. 1170 (*teste* Sinha, 1958, *loc. cit. supra*, p. 235).
- regulina** Cockerell. Transf. from subg. *Nothosmia* Ashmead, p. 1170 (*teste* Sinha, 1958, *loc. cit. supra*, p. 235).
- sanctaerosae** Cockerell. Transf. from subg. *Nothosmia* Ashmead, p. 1170 (*teste* Sinha, 1958, *loc. cit. supra*, p. 235).
- sequoiae** Michener. Transf. from subg. *Nothosmia* Ashmead, p. 1171 (*teste* Sinha, 1958, *loc. cit. supra*, p. 235).
- tersula** Cockerell. N. B., Wis., Mich. On flowers of *Rubus*. Transf. from subg. *Nothosmia* Ashmead, p. 1171 (*teste* Sinha, 1958, *loc. cit. supra*, p. 235).
- tokopahensis** Michener. Transf. from subg. *Nothosmia* Ashmead, p. 1171 (*teste* Sinha, 1958, *loc. cit. supra*, p. 235).
- trevoris** Cockerell. Transf. from subg. *Nothosmia* Ashmead, p. 1171 (*teste* Sinha, 1958, *loc. cit. supra*, p. 235).
- tristella cyanosoma** Cockerell. Transf. from subg. *Nothosmia* Ashmead, p. 1171 (*teste* Sinha, 1958, *loc. cit. supra*, p. 235).
- tristella tristella** Cockerell. Transf. from subg. *Nothosmia* Ashmead, p. 1171 (*teste* Sinha, 1958, *loc. cit. supra*, p. 235).
- virga** Sandhouse. Wis. On flowers of *Salix*. Transf. questionably from subg. *Nothosmia* Ashmead, p. 1171 (*teste* Sinha, 1958, *loc. cit. supra*, p. 253).
- zephyros** Sandhouse. Transf. from subg. *Nothosmia* Ashmead, p. 1171 (*teste* Sinha, 1958, *loc. cit. supra*, p. 235).

\**OSMIA* subgenus *EUTHOSMIA* Sinha

*Osmia* subg. *Euthosmia* Sinha, 1958. Kans. Univ. Sci. Bul. 39: 235.

Type: *Heriades glaucum* Fowler. Orig. desig.

Place after subgenus *Chenosmia* Sinha.

- claremontensis** Michener. Transf. from subg. *Nothosmia* Ashmead, p. 1167 (*teste* Sinha, 1958, *loc. cit. supra*, p. 237).
- glauc** (Fowler). Transf. from subg. *Nothosmia* Ashmead, p. 1169 (*teste* Sinha, 1958, *loc. cit. supra*, p. 237).
- nemoris** Sandhouse. Transf. from subg. *Nothosmia* Ashmead, p. 1170 (*teste* Sinha, 1958, *loc. cit. supra*, p. 237).

*OSMIA* subgenus *MONILOSMIA* Robertson

Remove from synonymy of subg. *Nothosmia* Ashmead, p. 1167 and place as a valid subgenus after subg. *Euthosmia* Sinha (*teste* Sinha, 1958, *loc. cit. supra*, p. 239).

- albolateralis albolateralis** Cockerell. Transf. from subg. *Nothosmia* Ashmead, p. 1167 (*teste* Sinha, 1958, *loc. cit. supra*, p. 241).
- albolateralis visenda** Sandhouse. Transf. from subg. *Nothosmia* Ashmead, p. 1167 (*teste* Sinha, 1958, *loc. cit. supra*, p. 241).
- atrocyanea atrocyanea** Cockerell. Transf. from subg. *Nothosmia* Ashmead, p. 1167 (*teste* Sinha, 1958, *loc. cit. supra*, p. 241).
- atrocyanea putata** Cockerell. Transf. from subg. *Nothosmia* Ashmead, p. 1167 (*teste* Sinha, 1958, *loc. cit. supra*, p. 241).
- brevis brevis** Cresson. Transf. from subg. *Nothosmia* Ashmead, p. 1167 (*teste* Sinha, 1958, *loc. cit. supra*, p. 241).
- brevis peridonea** Sandhouse. Transf. from subg. *Nothosmia* Ashmead, p. 1167 (*teste* Sinha, 1958, *loc. cit. supra*, p. 241).
- bridwelli** Sandhouse. Transf. from subg. *Nothosmia* Ashmead, p. 1167 (*teste* Sinha, 1958, *loc. cit. supra*, p. 241).
- cara** Cockerell. Transf. from subg. *Nothosmia* Ashmead, p. 1167 (*teste* Sinha, 1958, *loc. cit. supra*, p. 241).
- cyanella** Cockerell. Transf. from subg. *Nothosmia* Ashmead, p. 1168 (*teste* Sinha, 1958, *loc. cit. supra*, p. 241).
- cyaneonitens** Cockerell. Transf. from subg. *Nothosmia* Ashmead, p. 1168 (*teste* Sinha, 1958, *loc. cit. supra*, p. 241).
- densa densa** Cresson. Transf. from subg. *Nothosmia* Ashmead, p. 1168 (*teste* Sinha, 1958, *loc. cit. supra*, p. 241).
- densa pogonigera** Cockerell. Transf. from subg. *Nothosmia* Ashmead, p. 1168 (*teste* Sinha, 1958, *loc. cit. supra*, p. 241).
- felti** Cockerell. Minn. to New England states, south to W. Va. Transf. questionably from subg. *Nothosmia* Ashmead, p. 1168 (*teste* Sinha, 1958, *loc. cit. supra*, p. 253).
- gabrielis** Cockerell. Transf. from subg. *Nothosmia* Ashmead, p. 1168 (*teste* Sinha, 1958, *loc. cit. supra*, p. 241).
- hendersoni** Cockerell. Transf. from subg. *Acanthosmioides* Ashmead, p. 1165 (*teste* Sinha, 1958, *loc. cit. supra*, p. 241).
- juxta juxta** Cresson. Transf. from subg. *Nothosmia* Ashmead, p. 1169 (*teste* Sinha, 1958, *loc. cit. supra*, p. 241).
- juxta subpurpurea** Cockerell. Transf. from subg. *Nothosmia* Ashmead, p. 1169 (*teste* Sinha, 1958, *loc. cit. supra*, p. 241).
- rawlini** Sandhouse. Transf. from subg. *Nothosmia* Ashmead, p. 1170 (*teste* Sinha, 1958, *loc. cit. supra*, p. 241).
- rostrata** Sandhouse. Transf. from subg. *Nothosmia* Ashmead, p. 1170 (*teste* Sinha, 1958, *loc. cit. supra*, p. 241).
- sculleni** Sandhouse. Transf. from subg. *Nothosmia* Ashmead, p. 1171 (*teste* Sinha, 1958, *loc. cit. supra*, p. 241).
- seclusa** Sandhouse. Transf. from subg. *Nothosmia* Ashmead, p. 1171 (*teste* Sinha, 1958, *loc. cit. supra*, p. 241).
- simillima** Smith. On flowers of *Althaea*, *Barbarea*, *Oxalis*, *Pentstemon*, *Ranunculus*, *Rubus*, *Vicia* and *Viola*. Transf. from subg. *Nothosmia* Ashmead, p. 1171 (*teste* Sinha, 1958, *loc. cit. supra*, p. 241).

\**OSMIA* subgenus *TRICHINOSMIA* Sinha

*Osmia* subg. *Trichinosmia* Sinha, 1958. Kans. Univ. Sci. Bul. 39: 244.

Type: *Osmia latisulcata* Michener. By monotypy and orig. desig.

Place after subg. *Monilosmia* Robertson.



**latisulcata** Michener. Transf. from subg. *Nothosmia* Ashmead, p. 1169 (*teste* Sinha, 1958, *loc. cit. supra*, p. 245).

**OSMIA subgenus DICERATOSMIA** Robertson

Transfer from p. 1162, and place as a subgenus of *Osmia* after subg. *Trichinosmia* Sinha, p. 1171.

**conjuncta** (Cresson). Tex. On flowers of many families, especially Leguminosae and Scrophulariaceae. Nests in snail shells.

Biology: Rau, 1937. Ent. Soc. Amer. Ann. 30: 330.

**\*subfasciata miamiensis** Mitchell. Southern Fla. On flowers of *Crotalaria*.

*Osmia* (*Diceratosmia*) **subfasciata miamiensis** Mitchell, 1962. N. C. Agr. Expt. Sta. Tech. Bull. 152: 84. ♀, ♂.

**subfasciata subfasciata** (Cresson). N. J. to Kans., south to Fla. and Tex.; northern Mexico. On many flowers, chiefly Compositae, Leguminosae and Rosaceae. Nesting in abandoned beetle borings in structural timber.

**Genus MEGACHILE** Latreille, pp. 1172-1183

Taxonomy: Michener, 1962. N. Y. Ent. Soc. Jour. 70: 17-29.

In the publication noted above Michener divides the old genus *Megachile* into three genera, *Megachile*, *Chalicodoma* Lepeletier, and *Creightonella* Cockerell. The latter genus does not occur in North America. All of the subgenera occurring in North America belong to *Megachile* except *Chelostomoides* Robertson and *Archimegachile* Alfken, which belong in *Chalicodoma*.

**MEGACHILE subgenus LITOMEGACHILE** Mitchell, p. 1172

**brevis brevis** Say. On many flowers of a number of families, especially Compositae, Leguminosae, and Labiatae.

**brevis pseudobrevis** Mitchell, changed status. On a number of flowers, especially Compositae and Leguminosae.

**Megachile** (**Litomegachile**) **pseudobrevis** Mitchell. Reduced to subsp. rank (*teste* Mitchell, 1962, *loc. cit. supra*, p. 116).

**gentilis** Cresson. Nests in twigs of *Sambucus*.

Biology: Bechtel, 1958. Pan-Pacific Ent. 34: 12.

**mendica** Cresson. On flowers of many families, especially those of Compositae, Leguminosae, and Labiatae.

**pseudobrevis** Mitchell. A subsp. of **brevis** Say.

**texana** Cresson. On many flowers, especially Leguminosae, Compositae, and Labiatae.

**MEGACHILE subgenus MEGACHILE** Latreille, p. 1173

**centuncularis** (Linnaeus). Nests in borings in wood and carpet rolls. Visits many flowers, especially Leguminosae and Compositae.

Biology: Medler, 1959. Canad. Ent. 91: 113-115, 1 fig.

**inermis** Provancher. Visits many flowers, especially Compositae and Leguminosae. Nests in borings in wood.

Biology: Medler, 1958. Canad. Ent. 90: 325-327, 1 fig.

**montivaga** Cresson. Visiting flowers of many families, but particularly Compositae.

**nivalis** Friese. On flowers of *Elaeagnus* and *Taraxacum*.

**relativa** Cresson. Ga., Tenn. Nests in borings in wood. On flowers of several families, particularly Compositae and Leguminosae.

Biology: Medler and Koerber, 1958. Ent. Soc. Amer. Ann. 51: 337-344. 3 figs.

**MEGACHILE subgenus EUTRICHARAEA** Thomson, p. 1174

**apicalis** Spinola. On flowers of *Centaurea cyanus*.

**argentata** (Fabricius). Delete from Sup. 1, p. 244, a misident. of **concinna** Smith, *q. v.*

\***concinna** Smith. Pa. and Ohio south to Fla. and Ala., Okla., Ariz., Calif.; presumably introduced from West Indies (recorded in error as **argentata** (Fabricius) in Sup. 1). On flowers of *Asclepias*, *Bidens*, *Melilotus* and *Polygonum*.

**Megachile concinna** Smith, 1879. Descr. n. spp. Hym., p. 79. ♀.

Biology: Butler and Wargo, 1963. Pan-Pacific Ent. 39: 201-206, 1 fig.

**rotundata** (Fabricius). Mass., Va., Oreg., Idaho. On flowers of *Asclepias*, *Medicago*, *Melilotus*, *Polygonum*, *Solidago*, and *Veronica*.

Biology: Stephen and Torchio, 1961. Pan-Pacific Ent. 37: 85-93.—  
Stephen, 1962. Oreg. Agr. Expt. Sta. Bul. 586, 16 pp., 9 figs.

**MEGACHILE subgenus DELOMEGACHILE Viereck, pp. 1174–1175**

**addenda** Cresson. Que. Visits flowers of several families, especially Leguminosae, Rosaceae, and Compositae.

**frigida appalachensis** Mitchell. N. Y. to Ga. in the Appalachian Mts. On flowers of *Apocynum*, *Baptisia*, *Coreopsis*, *Galax*, *Koellia*, *Pentstemon*, *Rhododendron*, and *Veronia*.

**frigida frigida** Smith. Visits a number of flowers, but principally Leguminosae.

**gemula** Cresson. Ga. Visiting flowers of several families, but particularly Compositae and Leguminosae.

**ingenua** Cresson. Ga. On flowers of *Lupinus*, *Tephrosia*, and *Vaccinium*.

**melanophaea melanophaea** Smith. Delete ? Ga. from range. Visits flowers of a number of families, especially Leguminosae.

**melanophaea submelanophaea** Mitchell. Maine, Mich. On flowers of *Dicentra* and *Lupinus*.

**mucida** Cresson. On flowers of *Lupinus*, *Polycodium*, *Rubus*, and *Tephrosia*.

**MEGACHILE subgenus PHAENOSARUS Mitchell, p. 1175**

**fortis** Cresson. Ill. On flowers of *Dicrophyllum*, *Helianthus*, *Silphium*, *Solidago*, and *Veronia*.

Morphology (musculature of male metasoma and genitalia): Fischer, 1957 (1956). Canad. Ent. 88: 657-673, 9 figs.

**MEGACHILE subgenus MEGACHILOIDES Mitchell, p. 1175**

**oenotherae** (Mitchell). Collects pollen of *Oenothera*, but also visits *Ceanothus* and *Pentstemon*.

**MEGACHILE subgenus DEROTROPIS Mitchell, pp. 1175–1176**

**anograe** Cockerell. Kans.

**melanderi** Mitchell. Calif. (Inyo Co.).

**subanograe** Mitchell. On flowers of *Sphaeralcea*.

**MEGACHILE subgenus XEROMEGACHILE Mitchell, pp. 1176–1178**

**alata** Mitchell. Ariz. On flowers of *Prosopis*.

**bradleyi** Mitchell. Calif. (Antioch).

**brimleyi** Mitchell. On flowers of *Galactia* primarily, but also on *Erigeron*.

**casadae** Cockerell. Calif., Ariz. On flowers of *Opuntia*.

**dakotensis** Mitchell. On flowers of *Amorpha*, *Cleome*, *Helianthus*, *Kuhnis-tera*, *Petalostemon*, and *Verbena*.

**deflexa** Cresson. On flowers of *Bidens*, *Clethra*, *Erigeron*, *Phaseolus*, and *Rhus*.

**instita** Mitchell. Calif., Ariz. On flowers of *Acacia*.

**integra** Cresson. On flowers of *Erigeron*, *Galactia*, *Glycina*, *Koellia*, *Phaseolus*, and *Strophostyles*.

**integrella** Mitchell. On flowers of *Hypericum* and *Oxydendrum*.

\***macneilli** Mitchell. Calif. (Riverside Co.).

*Megachile (Xeromegachile) macneilli* Mitchell, 1957. Pan-Pacific Ent. 33: 24. ♂.

**maurata** Mitchell. On flowers of *Encelia*, *Sphaeralcea*.

**mojavensis** Mitchell. Ariz. On flowers of *Aster*.

**mucorosa** Cockerell. Ariz. On flowers of *Helianthus*.

**nevadensis** Cresson. La. (Winnfield).

**palmensis** Mitchell. Ariz.

\***pararubi** Mitchell. Ariz. (Roosevelt Lake).

*Megachile (Xeromegachile) pararubi* Mitchell, 1957. Pan-Pacific Ent. 33: 21. ♀.

\***pseudolegalis** Mitchell. Calif. (Riverside Co.).

*Megachile (Xeromegachile) pseudolegalis* Mitchell, 1957. Pan-Pacific Ent. 33: 22. ♂.

**rubi** Mitchell. Fla. On flowers of *Crataegus*, *Cuscuta*, *Ilex*, *Rubus*, and *Senecio*.

\***stoddardensis** Mitchell. Calif. (San Bernardino Co.).

*Megachile (Xeromegachile) stoddardensis* Mitchell, 1957. Pan-Pacific Ent. 33: 25. ♂.

**subnigra angelica** Mitchell. Ariz. On flowers of *Aster*.

**subnigra subnigra** Cresson. Utah (Navajo Lake).

#### MEGACHILE subgenus ARGYROPILE Mitchell, p. 1179

**parallela parallela** Smith. On a number of flowers, principally Compositae, and Leguminosae.

**townsendiana** Cockerell. On flowers of *Actinella*, *Chrysopsis*, *Helianthus*, and *Melanthera*.

#### MEGACHILE subgenus XANTHOSARUS Robertson, pp. 1179–1180

**armata** Smith. Ariz., N. Mex., Mexico. Delete from synonymy of *comata* Cresson (Sup 1, p. 245); *armata* is a valid sp. (teste T. B. Mitchell, based on examination of type).

**comata** Cresson. Delete *armata* Smith, a valid sp., from synonymy (Sup. 1, p. 245).

**latimanus** Say. Visiting many flowers, particularly in Compositae, Leguminosae and Labiatae.

**perihirta** Cockerell. ? Mich. On flowers of *Aster*, *Cirsium*, *Cleome*, *Epilobium*, *Eriogonum*, *Helianthus*, *Melilotus*, and *Trifolium*.

Biology: Hobbs, 1957 (1956). Canad. Ent. 88: 625-631.

#### MEGACHILE subgenus LEPTORACHIS Mitchell, p. 1180

**petulans** Cresson. Visits numerous flowers, especially Compositae, Leguminosae, and Labiatae.

#### MEGACHILE subgenus PSEUDOCENTRON Mitchell, p. 1180

**pruina pruina** Smith. On flowers of *Asclepias*, *Crotalaria*, *Croton*, *Cuscuta*, *Dalbergia*, *Gaillardia*, *Galactia*, *Helianthus*, *Melanthera*, *Ocimum*, *Rhus*, *Strophostyles* and *Veronia*.

#### MEGACHILE subgenus ACENTRON Mitchell, p. 1180

**albitarsis** Cresson. Mich., Ind. Visits a number of flowers, principally in Compositae and Leguminosae.

**MEGACHILE subgenus MELANOSARUS Mitchell, p. 1180**

**\*bahamensis** Mitchell. Fla.; Bahamas. On flowers of *Flaveria*.

*Megachile bahamensis* Mitchell, 1927. Psyche 34: 47. ♀.

*Megachile (Melanosarus) floridensis* Mitchell (syn. by Krombein, 1953. Amer. Mus. Novitates 1633: 21).

**floridensis** Mitchell. Syn. of **bahamensis** Mitchell.

**xylocopoides** Smith. On a number of flowers, particularly Compositae.

**MEGACHILE subgenus SAYAPIS Titus, pp. 1181-1182**

**frugalis frugalis** Cresson. N. J., Calif. On flowers of *Croton*, *Erigeron*, *Eriogonum*, *Lotus*, *Opuntia*, and *Tephrosia*.

**inimica inimica** Cresson. Fla. to Tex., south to Guatemala. On flowers of *Achyranthes*, *Avicennia*, *Bidens*, *Borrchia*, *Coccoloba*, *Crotalaria*, *Laciniaria*, *Ocimum*, *Salvia*, *Vitex* and *Ximensia*.

**inimica sayi** Cresson. Calif. Visiting many flowers, especially Compositae and Leguminosae.

**policaris** Say. Ga. On flowers of *Amorpha*, *Brauneria*, *Coreopsis*, *Erigeron*, *Helianthus*, *Oenothera*, *Salvia*, *Senecio*, *Silphium*, *Verbena*, and *Verbesina*.

**pugnata pugnata** Say. Nests in borings in sumac twigs. Visits many flowers, particularly Compositae.

Biology: Medler, 1964. Canad. Ent. 96: 918-921, 1 fig.

**\*Genus CHALICODOMA Lepeletier**

Place after **Megachile** subgenus **Sayapis** Titus, p. 1182.

**\*CHALICODOMA subgenus CHALICODOMA Lepeletier**

*Chalicodoma* Lepeletier, 1841. Hist. Nat. Ins. Hym. 2: 309.

Type: *Apis muraria* Fabricius. Desig. by Girard, 1879.

The typical subgenus does not occur in North America.

**CHALICODOMA subgenus CHELOSTOMOIDES Robertson**

(= *Megachile* subgenus *Chelostomoides* Robertson, pp. 1182-1183)

This subgenus with component species was transferred to **Chalicodoma** Lepeletier by Michener, 1962. N. Y. Ent. Soc. Jour. 70: 20.

**browni** (Mitchell).

*Megachile (Chelostomoides) felipiana* Mitchell (syn. by Timberlake, 1957. Pan-Pacific Ent. 33: 132).

**campanulae campanulae** (Robertson). Fla., Minn. Visits many flowers, especially Leguminosae, Campanulaceae and Labiatae.

**campanulae wilmingtوني** (Mitchell). Fla. to Va., coastal. On flowers of *Galactia*, *Melilotus*, *Pontederia*, *Solidago* and *Strophostyles*.

**exilis parexilis** (Mitchell). Fla., Ariz. Visits a number of flowers, especially Leguminosae.

**felipiana** (Mitchell). Syn. of **browni** (Mitchell).

**georgica** (Cresson). N. J. Visits flowers of several families, particularly Leguminosae.

**rugifrons** (Smith). Tex. On flowers of *Apocynum*, *Blephilia*, *Coreopsis*, *Erigeron*, *Hypericum*, *Lobelia*, *Nepeta*, *Pontederia*, *Psoralea*, *Tephrosia*, *Vaccinium*, and *Verbena*.

**CHALICODOMA subgenus ARCHIMEGACHILE Alfken**

(= *Megachile* subgenus *Archimegachile* Alfken, Sup. 1, p. 246)

This subgenus with component species was transferred to **Chalicodoma** Lepeletier by Michener, 1962, *loc. cit. supra*, p. 20.

Genus *COELIOXYS* Latreille, pp. 1183-1186

Change *Liothryapis* to *Liothyrapis* in generic synonymy.

**alternata** *alternata* Say, changed status. Mass. and Ont. to B. C., south to Fla. On flowers of *Helianthus*, *Lepachys*, *Melilotus*, *Petalostemum*, *Pycnanthemum*, *Rhus*, *Rudbeckia*, *Verbena*, and *Verbesina*. Host: *Megachile* (*Sayapis*) *p. pugnata* Say.

***Coelioxys alternata*** Say. Reduced to subsp. rank (*teste* Mitchell, 1962. N. C. Agr. Expt. Sta. Tech. Bull. 152: 195).

**alternata** *wisconsinensis* Cockerell. Mich., Ont., N. Y. south to N. C. Host: *Megachile* (*Sayapis*) *p. pugnata* Say.

***Coelioxys wisconsinensis*** Cockerell. Reduced to subsp. rank (*teste* Mitchell, 1962, *loc. cit. supra*, p. 196).

**asteris** Crawford. N. C. to Fla., west to Tex. On flowers of *Azelia*, *Bidens*, *Cephalanthus*, *Erigeron*, *Eryngium*, *Helenium*, *Heterotheca*, *Melilotus*, *Pycnanthemum*, and *Solidago*.

**\*atlantica** Mitchell. Que., Mass. and Ont., south to Fla., west to Man. and Nebr.

***Coelioxys atlantica*** Mitchell, 1962. N. C. Agr. Expt. Sta. Tech. Bull. 152: 198, fig. 65. ♀, ♂.

**banksi** Crawford. Syn. of *moesta* Cresson.

**\*boharti** Mitchell. Fla. (Cocoa).

***Coelioxys boharti*** Mitchell, 1962. N. C. Agr. Expt. Sta. Tech. Bull. 152: 206 ♀.

**deplanata** Cresson.

Biology: Linsley, 1962. Ent. Soc. Amer. Ann. 55: 160-161, fig 7.

**dolichos** Fox. N. C. to Fla. On flowers of *Bidens*, *Borrichia*, *Flaveria*, *Gailardia*, *Ilex*, *Itea*, *Rhus*, *Senecio*, and *Solidago*. Host: *Megachile* (*Melanosarus*) *xylocopoides* Sm.

**dubitata** Smith. Syn. of *rufitarsis rufitarsis* Smith.

**floridana** Cresson. N. C. to Fla.

**funerarea** Smith. Yukon and B. C. east to N. S., south to Ill. and Pa., Ga. Hosts: *Megachile* (*M.*) *inermis* Prov., *M. (M.) relativa* Cr. and *M. (Delomegachile)* *f. frigida* Sm.

***Coelioxys lateralis*** Cresson (syn. by Mitchell, 1962, *loc. cit. supra*, p. 203).

***Coelioxys lucrosa*** Cresson (syn. by Mitchell, 1962, *loc. cit. supra*, p. 203).

**\*galactiae** Mitchell. N. C., Fla., Ill. On flowers of *Amorpha*, *Asclepias*, *Eriogonum*, and *Galactia*.

***Coelioxys galactiae*** Mitchell, 1962. N. C. Agr. Expt. Sta. Tech. Bull. 152: 204, figs. 65, 66. ♀, ♂.

**germana** Cresson. Ill. to N. J., south to Fla. On flowers of *Coreopsis*, *Flaveria*, *Helianthus*, *Heliopsis*, *Lespedeza*, *Lycopus*, *Petalostemum*, *Psoralea*, *Pycnanthemum*, *Silphium*, *Teucrium*, and *Verbena*.

**hunteri** Crawford. N. C. and Ind., south to Fla. and N. Mex. On flowers of *Bidens*, *Helenium*, and *Mentha*.

**immaculata** Cockerell. Ind. to New England States, south to Fla. On flowers of *Asclepias*, *Baptisia*, *Rubus*, and *Tephrosia*.

***Coelioxys sculptifrons*** Crawford (syn. by Mitchell, 1962, *loc. cit. supra*, p. 210).

***lateralis*** Cresson. Syn. of *funerarea* Smith.

***lucrosa*** Cresson. Syn. of *funerarea* Smith.

**mendacina** Cockerell. Syn. of *sayi* Robertson.

**modesta** Smith. Que. and New England States, west to Nebr., south to Fla. and Tex. On flowers of *Aster*, *Campanula*, *Ceanothus*, *Chrysopsis*, *Helianthus*, *Lepachys*, *Lythrum*, *Melilotus*, *Psoralea*, *Pycnanthe-*

*um*, *Rhus*, and *Verbena*. Hosts: ? *Megachile* (*M.*) *centuncularis* (L.) and *Chalicodoma* (*Chelostomoides*) *campanulae wilmingtongi* (Mitch.).

**moesta** Cresson. N. S. to Alaska, south to Va., Ind., Colo. On flowers of *Solidago*. Hosts: *Megachile* (*M.*) *centuncularis* (L.) and *M.* (*M.*) *relativa* Cr. Transfer *tristis* Provancher to syn. of *sodalis* Cresson.

**Coelioxys banksi** Crawford (syn. by Mitchell, 1962, *loc. cit. supra*, p. 213).

**novomexicana** Cockerell. Host: *Megachile gentilis* Cr.

**octodentata** Say. New England States and Que. to B. C., south to Fla. in the East, and to Calif. in West. Visits many flowers, particularly of Compositae and Leguminosae. Hosts: *Megachile* (*M.*) *centuncularis* (L.), *M.* (*Litomegachile*) *b. brevis* Say and *M.* (*L.*) *mendica* Cr.

**piercei** Crawford. N. C. to Fla., west to Tex. On flowers of *Oenothera*. Host: ? *Megachile* (*Megachiloides*) *oenotherae* (Mitch.).

**porterae** Cockerell. N. S. to N. C., west to Alta. and Wis. On flowers of *Baptisia*, *Coreopsis*, *Galax*, *Geranium*, *Houstonia*, *Hydrangea*, *Polygala*, *Pyncnanthemum*, *Rubus*, and *Vaccinium*. Host: *Megachile* (*M.*) *relativa* Cr.

**ribis** Cockerell. Syn. of *sodalis* Cresson.

**rufitarsis rufitarsis** Smith. N. S. south to Ga., west to B. C. and Calif. On flowers of *Asclepias*, *Aster*, *Baptisia*, *Blephilia*, *Helianthus*, *Lobelia*, *Melilotus*, *Monarda*, *Petalostemum*, *Rudbeckia*, *Solidago*, *Spiraea*, *Verbesina*, and *Vicia*. Hosts: *Megachile* (*Delomegachile*) *melanophaea* Sm., *M.* (*Xanthosarus*) *latimanus* Say and *M.* (*X.*) *perihirta* Ckll.

**Coelioxys dubitata** Smith (syn. by Mitchell, 1962, *loc. cit. supra*, p. 229).

**salinaria** Cockerell. Host: *Megachile* (*Litomegachile*) *brevis* Say.

**sayi** Robertson. Ont. south to Fla. and Tex., west to B. C. Visits many flowers, specially Compositae and Leguminosae. Host: *Megachile* (*Litomegachile*) *mendica* Cr.

**Coelioxys mendacina** Cockerell (syn. by Mitchell, 1962, *loc. cit. supra*, p. 222).

**sculptifrons** Crawford. Syn. of *immaculata* Cockerell.

**slossoni arenicola** Crawford. Tex. to Ga. and N. C. On flowers of *Helianthus*, *Phaseolus*, and *Strophostyles*.

**slossoni slossoni** Viereck. On flowers of *Bidens*.

**sodalis** Cresson. N. S. to N. W. T. and B. C., south to N. Y. and Wis. On flowers of *Rhodora* and *Rubus*. Host: *Megachile* (*Delomegachile*) *melanophaea wootoni* Ckll.

**Coelioxys tristis** Provancher. Transf. from syn. of **moesta** Cresson (*teste* Mitchell, 1962, *loc. cit. supra*, p. 226).

**Coelioxys ribis** Cockerell (syn. by Mitchell, 1962, *loc. cit. supra*, p. 226).

**texana texana** Cresson. Fla. and Minn. to Tex., Ariz.; Mexico. On a number of flowers, predominantly Compositae and Leguminosae.

**wisconsinensis** Cockerell. A subsp. of *alternata* Say.

## Family APIDAE

Mitchell (1962. N. C. Agr. Expt. Sta. Tech. Bull. 152) raises the three subfamilies of the Catalog (Anthophorinae, Xylocopinae, and Apinae) to family rank.

Tribe EXOMALOPSINI

Taxonomy: Michener and Moure, 1957. Amer. Mus. Nat. Hist. Bul. 112: 395-452, 91 figs. (gen. reclass.).

EXOMALOPSIS subgenus EXOMALOPSIS Spinola, p. 1187

\**pulchella* Cresson. Southern Fla.; Cuba.

*Exomalopsis pulchella* Cresson, 1865. Ent. Soc. Phila. Proc. 4: 191. ♀, ♂.

\**similis* Cresson. Southern Fla.; Cuba, Costa Rica.

*Exomalopsis similis* Cresson, 1865. Ent. Soc. Phila. Proc. 4: 191. ♀.

*snowi* Cockerell. Transf. to *Exomalopsis* subg. *Phanomalopsis*.

*solani* Cockerell. Transf. to *Exomalopsis* subg. *Phanomalopsis*

*solidaginis* Cockerell. Transf. to *Exomalopsis* subg. *Phanomalopsis*.

\*EXOMALOPSIS subgenus PHANOMALOPSIS Michener and Moure

*Exomalopsis* subg. *Phanomalopsis* Michener and Moure, 1957. Amer. Mus. Nat. Hist. Bul. 112: 430.

Type: *Exomalopsis jenseni* Friese. Orig. desig.

Place before *Exomalopsis* subg. *Anthophorula*, p. 1187.

*snowi* Cockerell. Transf. from *Exomalopsis* subg. *Exomalopsis*, p. 1187 (*teste* Michener and Moure, 1957, *loc. cit. supra*, p. 430).

*solani* Cockerell. Transf. from *Exomalopsis* subg. *Exomalopsis*, p. 1187 (*teste* Michener and Moure, 1957, *loc. cit. supra*, p. 430).

*solidaginis* Cockerell. Transf. from *Exomalopsis* subg. *Exomalopsis*, p. 1187 (*teste* Michener and Moure, 1957, *loc. cit. supra*, p. 430).

EXOMALOPSIS subgenus ANTHOPHORULA Cockerell, pp. 1187-1188

*albicans* (Provancher). Oreg.

*chionura* Cockerell. Transf. to *Exomalopsis* subg. *Anthophorisca*.

*chlorina* Cockerell. Transf. to *Exomalopsis* subg. *Anthophorisca*.

*micheneri* Timberlake. Transf. to *Exomalopsis* subg. *Anthophorisca*.

*morgani* (Cockerell). Transf. to *Exomalopsis* subg. *Anthophorisca*.

*nitens* Cockerell. Transf. to *Exomalopsis* subg. *Anthophorisca*.

*pygmaea* (Cresson). Transf. to *Exomalopsis* subg. *Anthophorisca*.

*sidae* Cockerell. Transf. to *Exomalopsis* subg. *Anthophorisca*.

*texana* Friese. Transf. to *Exomalopsis* subg. *Anthophorisca*.

\*EXOMALOPSIS subgenus ANTHOPHORISCA Michener and Moure

*Exomalopsis* subg. *Anthophorisca* Michener and Moure, 1957. Amer. Mus. Nat. Hist. Bul. 112: 433.

Type: *Melissodes pygmaea* Cresson. Orig. desig.

Place after *Exomalopsis* subg. *Anthophorula*, p. 1188.

\**asteris* Mitchell. Tex., Ind. On flowers of *Aster*.

*Exomalopsis* (*Anthophorisca*) *asteris* Mitchell, 1962. N. C. Agr. Expt. Sta. Tech. Bull. 152: 236, fig. 68. ♀, ♂.

*chionura* Cockerell. Transf. from *Exomalopsis* subg. *Anthophorula*, p. 1187 (*teste* Michener and Moure, 1957, *loc. cit. supra*, p. 434).

Taxonomy: Rozen, 1957. Ent. Soc. Amer. Ann. 50: 469-475 (larva).

Biology: Rozen and MacNeill, 1957. Ent. Soc. Amer. Ann. 50: 522-529.

*chlorina* Cockerell. Transf. from *Exomalopsis* subg. *Anthophorula*, p. 1187 (*teste* Michener and Moure, 1957, *loc. cit. supra*, p. 434).

*micheneri* Timberlake. Transf. from *Exomalopsis* subg. *Anthophorula*, p. 1188 (*teste* Michener and Moure, 1957, *loc. cit. supra*, p. 434).

- morgani** (Cockerell). Transf. from *Exomalopsis* subg. *Anthophorula*, p. 1188 (*teste* Michener and Moure, 1957, *loc. cit. supra*, p. 434).  
**nitens** Cockerell. Transf. from *Exomalopsis* subg. *Anthophorula*, p. 1188 (*teste* Michener and Moure, 1957, *loc. cit. supra*, p. 434).  
**pygmaea** (Cresson). Transf. from *Exomalopsis* subg. *Anthophorula*, p. 1188 (*teste* Michener and Moure, 1957, *loc. cit. supra*, p. 434).  
**sidae** Cockerell. Transf. from *Exomalopsis* subg. *Anthophorula*, p. 1188 (*teste* Michener and Moure, 1957, *loc. cit. supra*, p. 434).  
**texana** Friese. Transf. from *Exomalopsis* subg. *Anthophorula*, p. 1188 (*teste* Michener and Moure, 1957, *loc. cit. supra*, p. 434).

**NOMADA** subgenus **NOMADA** Scopoli, pp. 1189–1194

- annulata** Smith. Transf. to *Nomada* subg. *Heminomada*, p. 1197.  
**armatella** Cockerell. Mich. to New England States.  
**\*augustiana** Mitchell. Ga. (Augusta). On flowers of *Salix*.  
*Nomada augustiana* Mitchell, 1962. N. C. Agr. Expt. Sta. Tech. Bull. 152: 402. ♀.  
**\*azaleae** Mitchell. N. C. (Highlands). On flowers of *Azalea*.  
*Nomada azaleae* Mitchell, 1962. N. C. Agr. Expt. Sta. Tech. Bull. 152: 403, fig. 107. ♂.  
**banksi** Cockerell. Ont. and N. Y., south to Ill. and N. C. On flowers of *Aster*, *Bidens*, *Eupatorium*, *Polygonum*, and *Solidago*.  
**bethunei** Cockerell. Transf. to *Nomada* subg. *Heminomada*, p. 1197.  
**bilobata** Swenk. Transf. to *Nomada* subg. *Nomadula*, p. 1205, as a syn. of *articulata* Smith.  
**\*capillata** Mitchell. Mass. (Milton).  
*Nomada capillata* Mitchell, 1962. N. C. Agr. Expt. Sta. Tech. Bull. 152: 406. ♂.  
**ceanothi** Cockerell. N. Y. to N. C. On flowers of *Amelanchier*, *Aruncus*, *Ceanothus*, and *Senecio*.  
**\*composita** Mitchell. Conn., Mich.  
*Nomada composita* Mitchell, 1962. N. C. Agr. Expt. Sta. Tech. Bull. 152: 408. ♀.  
**cressonii cressonii** Robertson. N. Dak. to N. S., south to Tenn. and N. C. Visits a number of flowers of several families.  
*Nomada (Nomada) mera* Cockerell. Syn. by Mitchell, 1962, *loc. cit. supra*, p. 409.  
**crudelis** Cresson. Host: ? *Andrena obscuripennis* Sm. Transf. from *Nomada* subg. *Heminomada*, p. 1198 (*teste* Mitchell, 1962, *loc. cit. supra*, p. 410).  
**\*decepta** Mitchell. N. Y., Mich.  
*Nomada decepta* Mitchell, 1962. N. C. Agr. Expt. Sta. Tech. Bull. 152: 411. ♀.  
**denticulata** Robertson. Minn. to N. Y., south to Ga. On a number of flowers.  
*Nomada (Nomada) simplex* Robertson. Syn. by Mitchell, 1962, *loc. cit. supra*, p. 411.  
**depressa** Cresson. Nebr., Mich. to Maine, south to N. C. On flowers of *Azalea* and *Rubus*.  
*Nomada (Nomada) depressicauda* Cockerell. Syn. by Mitchell, 1962, *loc. cit. supra*, p. 413.  
**depressicauda** Cockerell. Syn. of *depressa* Cresson.  
**\*detrita** Mitchell. N. H. (Randolph).  
*Nomada detrita* Mitchell, 1962. N. C. Agr. Expt. Sta. Tech. Bull. 152: 414, figs. 106, 107. ♂.



\***dreisbachi** Mitchell. Maine, Mass., Mich.

*Nomada dreisbachi* Mitchell, 1962. N. C. Agr. Expt. Sta. Tech. Bull. 152: 414. ♂.

**electa** Cresson. Transf. to *Nomada* subg. *Heminomada*, p. 1198.

**florilega** Lovell and Cockerell. Mich. to Maine, south to N. C.

**gracilis** Cresson. N. Y. and New England States. On flowers of *Salix*.

**illinoensis** Robertson. Minn. to Mass., south to Ga. On many flowers of several families.

**imbricata** Smith. Transf. to *Nomada* subg. *Heminomada*, p. 1199.

\***indusata** Mitchell. N. C., Ga. On flowers of *Amelanchier* and *Salix*.

*Nomada indusata* Mitchell, 1962. N. C. Agr. Expt. Sta. Tech. Bull. 152: 418, fig. 107. ♂.

\***inepta** Mitchell. Maine to N. C., Minn. On flowers of *Salix*.

*Nomada inepta* Mitchell, 1962. N. C. Agr. Expt. Sta. Tech. Bull. 152: 419. ♀.

**infantula** Cockerell. Syn. of **parva** Robertson.

\***kingstonensis** Mitchell. R. I. (Kingston).

*Nomada kingstonensis* Mitchell, 1962. N. C. Agr. Expt. Sta. Tech. Bull. 152: 420. ♀.

**lehighensis** Cockerell. Mich. to N. S., south to Ga. On flowers of *Crataegus*.

\***media** Mitchell. N. C., Tenn. On flowers of *Azalea*, *Rubus*, and *Vaccinium*.

*Nomada media* Mitchell, 1962. N. C. Agr. Expt. Sta. Tech. Bull. 152: 421, fig. 107. ♀, ♂.

\***mendica** Mitchell. Vt., N. H.

*Nomada mendica* Mitchell, 1962. N. C. Agr. Expt. Sta. Tech. Bull. 152: 422, fig. 107. ♂.

**mera** Cockerell. Syn. of **cressonii** **cressonii** Robertson.

\***minima** Mitchell. Md. to N. C.

*Nomada minima* Mitchell, 1962. N. C. Agr. Expt. Sta. Tech. Bull. 152: 423. ♂.

\***orba** Mitchell. N. Y. (Ithaca).

*Nomada orba* Mitchell, 1962. N. C. Agr. Expt. Sta. Tech. Bull. 152: 424, fig. 107. ♂.

**parva** Robertson. Mich. to New England States, south to Miss. On flowers of *Capsella*, *Fragaria*, *Geum*, *Nothoscordum*, *Osmorrhiza*, *Potentilla*, *Ranunculus*, *Rubus*, *Senecio*, and *Smilax*.

*Nomada (Nomada) infantula* Cockerell. Syn. by Mitchell, 1962, *loc. cit. supra*, p. 425.

**pygmaea** Cresson. Minn. to Maine, south to Va. On flowers of *Euonymus*, *Rhus*, and *Rubus*.

**sayi** Robertson. Minn. to Que. and Maine, south to Ga. Visits many flowers belonging to various families.

**simplex** Robertson. Syn. of **denticulata** Robertson.

**skinneri** Cockerell. Conn. to N. C. On flowers of *Galax*.

\***sobrina** Mitchell. Mich. (Macomb Co.).

*Nomada sobrina* Mitchell, 1962. N. C. Agr. Expt. Sta. Tech. Bull. 152: 431, fig. 107. ♂.

**subnigrocincta** Swenk. Transf. to *Nomada* subg. *Gnathias*, p. 1196.

\***townesi** Mitchell. Md. (Takoma Park).

*Nomada townesi* Mitchell, 1962. N. C. Agr. Expt. Sta. Tech. Bull. 152: 432. ♂.

\***tyrrellensis** Mitchell. N. C., Fla. On flowers of *Amelanchier* and *Erigeron*.

*Nomada tyrrellensis* Mitchell, 1962. N. C. Agr. Expt. Sta. Tech. Bull. 152: 433. ♀.

\**ulsterensis* Mitchell. N. Y., D. C.

*Nomada ulsterensis* Mitchell, 1962. N. C. Agr. Expt. Sta. Tech. Bull. 152: 433, fig. 107. ♂.

*valida* Smith. N. S. and N. Y. to B. C.

*vicina vicina* Cresson. Mich. to Que., New England States, and N. J.

*xanthura* Cockerell. Transf. to *Nomada* subg. *Heminomada*, p. 1200.

**NOMADA subgenus GNATHIAS Robertson, pp. 1194–1196**

*albofasciata* Smith. Syn of *bella bella* Cresson.

*bella bella* Cresson. Maine and Que. to Minn., south to Fla.

*Nomada (Gnathias) albofasciata* Smith. Syn. by Mitchell, 1962, *loc. cit. supra*, p. 346.

*carolinae* Cockerell. Syn. of *ovata* (Robertson).

*cornelliana* Cockerell. Syn. of *perplexa* Cresson.

*cuneata* (Robertson). Minn. to N. S., south to N. C. On a number of flowers of various families.

*Nomada (Gnathias) lepida* Cresson of Catalog, in part. *N. cuneata* (Robt.), with its forms, a valid sp. (*teste* Mitchell, 1962, *loc. cit. supra*, p. 347).

*hydrophylli* Swenk. Md.

*lepida* Cresson. Minn. to Maine, south to Ga. On flowers of *Brassica*, *Fragaria*, *Geranium*, *Ilex*, *Prunus*, *Pyracantha*, *Pyrus*, and *Rubus*. Remove *cuneata*, a valid sp., and its forms from syn.

*louisianae* Cockerell. Nebr. and Minn. to N. Y. and S. C.

*maculata* Cresson. Minn. to Maine, south to Va.

*ovata* (Robertson). Minn. to Maine, south to S. C. On a number of flowers of various families.

*Nomada (Gnathias) carolinae* Cockerell. Syn. by Mitchell, 1962, *loc. cit. supra*, p. 351.

*perplexa* Cresson. Minn. to Mass., south to Tenn. and N. C. On flowers of *Ceanothus*, *Chrysanthemum*, and *Salix*.

*Nomada (Gnathias) cornelliana* Cockerell. Syn. by Mitchell, 1962, *loc. cit. supra*, p. 352.

*subnigrocincta* Swenk. Mass., N. C. Transf from *Nomada* subg. *Nomada*, p. 1193 (*teste* Mitchell, 1962, *loc. cit. supra*, p. 353). Change ♀ ♂ to ♀ (♂ misdet.).

**NOMADA subgenus PHOR Robertson, p. 1197**

*integerrima* Dalla Torre. Minn. to Que. and New England States, south to La. and N. C. On flowers of *Rubus*.

**NOMADA subgenus HEMINOMADA Cockerell and Atkins, pp. 1197–1200**

*annulata* Smith. N. C. on flowers of *Claytonia*, *Rubus*, and *Senecio*. Host: *Andrena macra* Mitch. Transf. from *Nomada* subg. *Nomada*, p. 1189 (*teste* Mitchell, 1962, *loc. cit. supra*, p. 380).

\**autumnalis* Mitchell. Mich. (Oakland Co.).

*Nomada (? Heminomada) autumnalis* Mitchell, 1962. N. C. Agr. Expt. Sta. Tech. Bull. 152: 382. ♂.

*bethunei* Cockerell. Mich., Ohio. Transf. from *Nomada* subg. *Nomada*, p. 1190 (*teste* Mitchell, 1962, *loc. cit. supra*, p. 382).

*bishoppi* Cockerell, changed status. Minn. to Maine, south to Miss. and Fla. On flowers of *Aronia*, *Brassica*, *Claytonia*, *Crataegus*, *Rubus*, *Senecio*, and *Viburnum*.

*Nomada (Heminomada) luteoloides* Robertson of Catalog, in part. N.

**luteola bishoppi** removed from syn. and raised to sp. rank (*teste* Mitchell, 1962, *loc. cit. supra*, p. 383). *N. B.*: This was described as **luteola bishoppi**, not **luteoloides bishoppi** as listed in Catalog; delete "*Fide* Swenk, 1915" at end of citation.

\***capitalis** Mitchell. N. H., Mich., N. C., Tenn.

**Nomada (Heminomada) capitalis** Mitchell, 1962. N. C. Agr. Expt. Sta. Tech. Bull. 152: 385. ♀.

\***colorata** Mitchell. N. Y., Mich.

**Nomada (Heminomada) colorata** Mitchell, 1962. N. C. Agr. Expt. Sta. Tech. Bull. 152: 386. ♀.

**crudelis** Cresson. Transf. to **Nomada** subg. **Nomada**, p. 1190.

**dentariae** (Robertson). Ill. to N. Y., south to N. C. or Tenn.

**electa** Cresson. Transf. from **Nomada** subg. **Nomada**, p. 1190 (*teste* Mitchell, 1962, *loc. cit. supra*, p. 388).

**Nomada (Heminomada) mimula** Cockerell. Syn. by Mitchell, 1962, *loc. cit. supra*, p. 388.

**electella** Cockerell. R. I. to Ga. On flowers of *Ceanothus*. Transf. from **Nomada** subg. **Nomadula**, p. 1205.

**festiva** Cresson. Mass. Transf. from **Nomada** subg. **Micronomada**, p. 1203 (*teste* Mitchell, 1962, *loc. cit. supra*, p. 390).

\***fragariae** Mitchell. Va., N. C., Fla. On flowers of *Fragaria* and *Prunus*.

**Nomada (Heminomada) fragariae** Mitchell, 1962. N. C. Agr. Expt. Sta. Tech. Bull. 152: 391, fig. 105. ♂.

**imbricata** Smith. N. Y. to N. S. Transf. from **Nomada** subg. **Nomada**, p. 1191 (*teste* Mitchell, 1962, *loc. cit. supra*, p. 392).

**luteola** Olivier. Ill. to Va., south to Fla. On many flowers.

**luteoloides** Robertson. Syn. of **sulphurata** Smith, except that **bishoppi** Cockerell is a valid sp.

**mimula** Cockerell. Syn. of **electa** Cresson.

**obliterata** Cresson. Minn. to N. Y., south to S. C. On flowers of *Antennaria*, *Chaerophyllum*, *Claytonia*, *Heracleum*, *Prunus*, *Salix*, *Stellaria*, *Taraxacum*, and *Viburnum*.

\***och'lerata** Mitchell. Mich. (Ann Arbor).

**Nomada (? Heminomada) ochlerata** Mitchell, 1962. N. C. Agr. Expt. Sta. Tech. Bull. 152: 396. ♂.

**pseudops** Cockerell. Mass. to Wis. On flowers of *Rubus*.

**subrutila** Lovell and Cockerell. New England States to Mich.

**sulphurata** Smith. Mass. to Minn., south to Ga. and Miss. On flowers of *Cercis*, *Claytonia*, *Erythronium*, *Nothoscordum*, *Prunus*, *Ribes*, *Salix*, *Stellaria*, and *Zanthoxylum*.

**Nomada (Heminomada) luteoloides** Robertson of Catalog, in part. Syn. by Mitchell, 1962, *loc. cit. supra*, p. 398. *N. B.*, **bishoppi** removed from syn., and made a valid sp.

**xanthura** Cockerell. N. Y. to N. S. Transf. from **Nomada** subg. **Nomada**, p. 1194 (*teste* Mitchell, 1962, *loc. cit. supra*, p. 400).

#### NOMADA subgenus HOLONOMADA Robertson, pp. 1200–1201

**affabilis affabilis** Cresson. Ill. to Mass., south to Fla. On a number of flowers of various families.

**superba superba** Cresson. Kans. and Minn., east to Ohio and Ga. On a number of flowers of various families.

#### NOMADA subgenus PACHYNOMADA Rodeck, pp. 1201–1202

**vineta vineta** Say. Kans. and Nebr., east to N. C. On flowers of *Bidens*.

**NOMADA subgenus CALLINOMADA Rodeck, p. 1202**

**aquilarum** Cockerell. Wis.

**placida** Cresson. Nebr. to N. Y., south to N. C.

**\*rodecki** Mitchell. N. C. (Southern Pines).

*Nomada (Callinomada) rodecki* Mitchell, 1962. N. C. Agr. Expt. Sta. Tech. Bull. 152: 376. ♂.

**NOMADA subgenus MICRONOMADA Cockerell and Atkins, pp. 1202-1204**

**fervida** Smith. S. C. On flowers of *Bidens*, *Ceanothus*, *Melilotus*, and *Polygonum*.

**festiva** Cresson. Transf. to *Nomada* subg. *Heminomada*, p. 1198.

**heiligbrodtii** Cresson. Mich. to New England states, south to Fla. and Tex. On flowers of *Bidens*, *Chrysopsis*, *Haplopappus*, and *Solidago*.

*Nomada (Micronomada) tiftonensis* Cockrell. Syn. by Mitchell, 1962, loc. cit. supra, p. 355.

**modesta** Cresson. N. Y. to Ala. On flowers of *Cephalanthus*, *Cucurbita*, *Helenium*, *Rhus* and *Solidago*.

**texana** Cresson. Mass. to Mich., Ill. and Colo., south to Ala., Tex. and Ariz. On flowers of *Cephalanthus*, *Eryngium*, *Helianthus*, *Marilaunidium*, *Pycnanthemum*, *Verbena*, and *Verbesina*.

**tiftonensis** Cockerell. Syn. of *heiligbrodtii* Cresson.

**wisconsinensis** Graenicher. Mich.

**NOMADA subgenus CENTRIAS Robertson, p. 1204**

**erigeronis** Robertson. Mass.

**NOMADA subgenus NOMADULA Cockerell, pp. 1205-1206**

**articulata** Smith. N. Dak. to New England states, south to La. and Fla. Visits many flowers in a number of families.

*Nomada (Nomadula) incerta* Cresson. Syn. by Mitchell, 1962, loc. cit. supra, p. 365.

*Nomada (Nomada) bilobata* Swenk. Syn. by Mitchell, 1962, loc. cit. supra, p. 365.

**\*australis** Mitchell. Fla. to N. C., N. Y., Ind. On flowers of *Bidens*, *Erigeron*, *Fragaria*, *Gossypia*, *Ilex* and *Senecio*.

*Nomada (Nomadula) australis* Mitchell, 1962. N. C. Agr. Expt. Sta. Tech. Bull. 152: 367. ♀, ♂.

**electella** Cockerell. Transf. to *Nomada* subg. *Heminomada*, p. 1198.

**incerta** Cresson. Syn. of *articulata* Smith.

**rubicunda** Olivier. N. Y. to Mich., south to Fla. and Tex. On flowers of *Crataegus*, *Fragaria*, *Melilotus*, and *Rubus*.

**\*seneciophila** Mitchell. N. C., Fla. On flowers of *Rubus* and *Senecio*.

*Nomada (Nomadula) seneciophila* Mitchell, 1962. N. C. Agr. Expt. Sta. Tech. Bull. 152: 370. ♀, ♂.

**HOLCOPASITES subgenus HOLCOPASITES Ashmead, pp. 1207-1208**

**calliopsidis** (Linsley). Minn. to Mich. south to Tenn.

**heliopsis** (Robertson). Colo. to N. Dak. and Ill. On flowers of *Grindelia*, *Heliopsis* and *Solidago*.

**illinoiensis** (Robertson). Ill. to Mass. south to Ga. On flowers of *Ceanothus*, *Chrysanthemum*, *Coreopsis*, *Erigeron*, *Geum*, *Lespedeza*, *Oenothera*, and *Pycnanthemum*.

*Holcopasites (Holcopasites) punctulatus* (Linsley). Syn. by Mitchell, 1962, loc. cit. supra, p. 488.

- \***pseudocarinatus** Mitchell. Wis. (Madison). On flowers of *Melilotus*.  
*Holcopasites pseudocarinatus* Mitchell, 1962. N. C. Agr. Expt. Sta. Tech. Bull. 152: 489. ♀.  
**punctulatus** (Linsley). Syn. of *illinoiensis* (Robertson).

NEOLARRA subgenus PHILEREMULUS Cockerell, p. 1210

- cockerelli** (Crawford). Ga. Host: ? *Perdita (Alloperdita) obscurata* Cr.

Genus PROTEPEOLUS Linsley and Michener, p. 1211

- integer** Linsley. South. Calif. to west. Tex.; Mexico (Durango, Jalisco).  
 Taxonomy: Hurd and Linsley, 1963. Kans. Ent. Soc. Jour. 36: 253-255 (♀).

Genus EPEOLUS Latreille, pp. 1211-1213

- \***australis** Mitchell. N. C., Ga. On flowers of *Ceanothus*, *Rubus*, *Senecio*, and *Specularia*.  
*Epeolus australis* Mitchell, 1962. N. C. Agr. Expt. Sta. Tech. Bull. 152: 441, fig. 110. ♀, ♂.  
**autumnalis** Robertson. Minn. to Maine, south to N. C. On flowers of *Aster*, *Bidens*, *Haplopappus*, *Helianthus*, *Rudbeckia*, and *Solidago*.  
**banksi** (Cockerell). Minn. to N. J. and N. C. On flowers of *Fragaria*.  
**bifasciatus** Cresson. New England to Fla., west to Minn., Colo. and northern Mexico. Visits flowers of several families, but especially Compositae.  
\***canadensis** Mitchell. N. S., Que., N. Y., Ont., Mich., Ind.  
*Epeolus canadensis* Mitchell, 1962. N. C. Agr. Expt. Sta. Tech. Bull. 152: 444, fig. 110. ♀, ♂.  
\***carolinus** Mitchell. N. C., Fla. On flowers of *Eupatorium*.  
*Epeolus carolinus* Mitchell, 1962. N. C. Agr. Expt. Sta. Tech. Bull. 152: 445, fig. 110. ♀, ♂.  
**distinctus** Cresson. Transf. to *Triepeolus*, p. 1214.  
\***erigeronis** Mitchell. N. C., Ga., Fla. On flowers of *Erigeron*, *Hypericum* and *Melilotus*.  
*Epeolus erigeronis* Mitchell, 1962. N. C. Agr. Expt. Sta. Tech. Bull. 152: 445, fig. 110. ♀, ♂.  
\***floridensis** Mitchell. Fla. On flowers of *Eriogonum*.  
*Epeolus floridensis* Mitchell, 1962. N. C. Agr. Expt. Sta. Tech. Bull. 152: 446, fig. 110. ♀, ♂.  
**glabratus** Cresson. On flowers of *Vicia*.  
\***howardi** Mitchell. N. C. (Southern Pines). Host: ? *Colletes howardi* Sw. On flowers of *Kuhnistera*.  
*Epeolus howardi* Mitchell, 1962. N. C. Agr. Expt. Sta. Tech. Bull. 152: 447, fig. 110. ♀, ♂.  
\***ilicis** Mitchell. R. I. and Mass. to Ga., Tenn. On flowers of *Amorpha*, *Batodendron*, *Ilex* and *Rhus*.  
*Epeolus ilicis* Mitchell, 1962. N. C. Agr. Expt. Sta. Tech. Bull. 152: 448, fig. 110. ♀, ♂.  
**interruptus** Robertson. N. J. to Ga., west to Mich. and Tex. On flowers of *Chrysanthemum*, *Coreopsis*, *Krigia*, *Psoralea*, *Rudbeckia*, and *Trifolium*.  
\***lanhami** Mitchell. Maine, Pa., Mich.  
*Epeolus lanhami* Mitchell, 1962. N. C. Agr. Expt. Sta. Tech. Bull. 152: 450, fig. 110. ♀, ♂.  
**lectoides** Robertson. Ill. to New England, south to Ga. On flowers of *Ceanothus*, *Cephalanthus*, *Helenium*, *Hypericum*, *Pycnanthemum*, and *Rhus*.

*Epeolus semilectus* Cockerell. Syn. by Mitchell, 1962, *loc. cit. supra*, p. 452.

*minimus* (Robertson). Minn., Mich.

\**oswegoensis* Mitchell. N. Y. (Oswego).

*Epeolus oswegoensis* Mitchell, 1962. N. C. Agr. Expt. Sta. Tech. Bull. 152: 453. ♂.

*pusillus* Cresson. Maine and Fla., west to Wyo. and Tex. Visits chiefly flowers of Compositae.

*scutellaris* Say. N. S. to N. C., west to Minn. and Tex. On flowers of *Baccharis*, *Bidens*, and *Solidago*.

*Epeolus vernoniae* Cockerell. Syn. by Mitchell, 1962, *loc. cit. supra*, p. 454.

*semilectus* Cockerell. Syn. of *lectoides* Robertson.

\**vernalis* Mitchell. N. C. (Holly Shelter).

*Epeolus vernalis* Mitchell, 1962. N. C. Agr. Expt. Sta. Tech. Bull. 152: 455. ♀.

*vernoniae* Cockerell. Syn. of *scutellaris* Say.

*virginiensis* Cockerell. Transf. to *Triepeolus*, p. 1216, as a syn. of *pectoralis* (Robertson).

\**weemsi* Mitchell. Fla. (Alachua Co.). On flowers of *Prunus*.

*Epeolus weemsi* Mitchell, 1962. N. C. Agr. Expt. Sta. Tech. Bull. 152: 455. ♂.

*zonatus* Smith. Ga., Fla. On flowers of *Crataegus* and *Prunus*.

#### Genus *TRIEPEOLUS* Robertson, pp. 1213-1218

\**alachuensis* Mitchell. Fla. (Alachua Co.). On flowers of *Melilotus*.

*Triepeolus alachuensis* Mitchell, 1962. N. C. Agr. Expt. Sta. Tech. Bull. 152: 462. ♀.

\**charlottensis* Mitchell. N. B. (Charlotte Co.).

*Triepeolus charlottensis* Mitchell, 1962. N. C. Agr. Expt. Sta. Tech. Bull. 152: 462, fig. 112. ♀.

\**cirsianus* Mitchell. Ind. (Warren Co.). On flowers of *Cirsium*.

*Triepeolus cirsianus* Mitchell, 1962. N. C. Agr. Expt. Sta. Tech. Bull. 152: 463. ♂.

*concaus* (Cresson). N. C. and Fla. to Wis. and Ill., Colo., Calif. On many flowers, especially Compositae and Labiatae.

*concolor* (Robertson). A subsp. of *lunatus* (Say).

*cressonii cressonii* (Robertson). Minn. and New England States, south to Tenn. and N. C. On many flowers, especially Compositae.

*distinctus* (Cresson). Ga., Fla. Transf. from *Epeolus*, p. 1212 (*teste* Mitchell, 1962, *loc. cit. supra*, p. 467).

*donatus* (Smith). Wis. to New England states, south to Ga. Visits chiefly flowers of Compositae.

\**floridanus* Mitchell. Fla. (Gainesville).

*Triepeolus floridanus* Mitchell, 1962. N. C. Agr. Expt. Sta. Tech. Bull. 152: 468. ♂.

\**georgicus* Mitchell. Ga. (Fort Gordon).

*Triepeolus georgicus* Mitchell, 1962. N. C. Agr. Expt. Sta. Tech. Bull. 152: 469, fig. 112. ♀.

*helianthi helianthi* (Robertson). Wyo. to Wis., Ill., and Ind. On flowers of *Grindelia*, *Helianthus*, *Rudbeckia*, and *Verbena*.

\**junctus* Mitchell. N. Y., N. C.

*Triepeolus junctus* Mitchell, 1962. N. C. Agr. Expt. Sta. Tech. Bull. 152: 471. ♀, ♂.

**lunatus concolor** (Robertson), changed status. Minn. to Pa., south to Tex. and Fla. Visits chiefly Compositae and Leguminosae. Host: *Melissodes b. bimaculata* (Lep.).

*Trypeolus concolor* (Robertson). Reduced to subsp. rank (*teste* Mitchell, 1962, *loc. cit. supra*, p. 472).

**lunatus lunatus** (Say), changed status. Minn. to New England States, south to Tex. and Fla. Visits chiefly Compositae and Leguminosae.

*Trypeolus lunatus* (Say). Reduced to subsp. rank (*teste* Mitchell, 1962, *loc. cit. supra*, p. 472).

\***michiganensis** Mitchell. Conn., N. Y., Mich.

*Trypeolus michiganensis* Mitchell, 1962. N. C. Agr. Expt. Sta. Tech. Bull. 152: 473. ♀, ♂.

\***micropygius atripes** Mitchell. Pa., N. C., Ga. On flowers of *Aster* and *Helianthus*.

*Trypeolus micropygius atripes* Mitchell, 1962. N. C. Agr. Expt. Sta. Tech. Bull. 152: 474, fig. 112. ♀, ♂.

**micropygius micropygius** Robertson, changed status. On flowers of *Aster*.

*Trypeolus micropygius* Robertson. Reduced to subsp. rank (*teste* Mitchell, 1962, *loc. cit. supra*, p. 474).

\***monardae** Mitchell. N. C. On flowers of *Monarda*.

*Trypeolus monardae* Mitchell, 1962. N. C. Agr. Expt. Sta. Tech. Bull. 152: 475, fig. 112. ♂.

**nevadensis** (Cresson). Nebr. and Tex. to N. C. and Ga. On flowers of *Cirsium*, *Helianthus*, *Monarda*, *Pycnanthemum*, *Verbena*, and *Vernonia*.

\***nigrihirtus** Mitchell. N. C. (Chatham Co.).

*Trypeolus nigrihirtus* Mitchell, 1962. N. C. Agr. Expt. Sta. Tech. Bull. 152: 476. ♂.

**norae** Cockerell.

Biology: Linsley, 1962. Ent. Soc. Amer. Ann. 55: 161.

**pectoralis** (Robertson). Minn. to New England States, south to Ga. Visits chiefly flowers of Compositae. Host: ? *Melissodes (Eumelissodes) rustica* (Say).

*Epeolus virginensis* Cockerell. Syn. by Mitchell, 1962, *loc. cit. supra*, p. 478.

\***quadrifasciatus atlanticus** Mitchell. Md. to Fla., Mo. On flowers of *Chrysopsis*, *Koellia*, *Kuhnistera*, and *Monarda*.

*Trypeolus 4-fasciatus atlanticus* Mitchell, 1962. N. C. Agr. Expt. Sta. Tech. Bull. 152: 479, figs. 112. ♀, ♂.

**quadrifasciatus quadrifasciatus** (Say), changed status. Ch. from sp. to subsp.

**remigatus** (Fabricius). N. J. to Fla., west to Minn. and Tex., N. Mex., Colo., Calif. Visits many flowers belonging to several families. Hosts: ? *Peponapis p. pruinosa* (Say) or ? *Xenoglossa strenua* (Cr.).

**rufithorax** Graenicher. On flowers of *Bidens*, *Borrichia*, and *Melilotus*. Host: *Svastra (Epimelissodes) o. obliqua* (Say).

Biology: Rozen, 1964. Amer. Mus. Novitates 2170, p. 9.

\***rugosus** Mitchell. Fla. On flowers of *Pontederia*.

*Trypeolus rugosus* Mitchell, 1962. N. C. Agr. Expt. Sta. Tech. Bull. 152: 482, fig. 112. ♀.

**simplex** Robertson. Wis., Ill. and Mich. to N. C. and Ga. On flowers of *Helenium*, *Helianthus*, *Lespedeza*, *Pycnanthemum*, *Silphium*, *Teucrium* and *Verbena*.

\***sublunatus** Mitchell. N. C. (Marion). On flowers of *Coreopsis*.

*Trypeolus sublunatus* Mitchell, 1962. N. C. Agr. Expt. Sta. Tech. Bull. 152: 483. ♂.

**verbesinae** (Cockerell).

Biology: Linsley, 1962. Ent. Soc. Amer. Ann. 55: 161.

Genus **EPEOLOIDES** Giraud, p. 1218

**pilosula** (Cresson). New England States to Ga., west to Mich., Wis., N. Dak.  
On flowers of *Apocynum*, *Galax*, *Houstonia*, and *Rubus*.

**Nomia compacta** Provancher. Syn. by Mitchell, 1962, *loc. cit. supra*, p. 491.

Genus **PTILOTHRIX** Smith, Sup. 1, p. 248

**bombiformis** (Cresson), changed status. N. J. to Kans., south to Fla. and Tex. On flowers of *Cephalanthus*, *Cirsium*, *Hibiscus*, *Ipomoea*, *Verbena*, and *Vernonia*. Ch. from subsp. to sp. by Mitchell, 1962, *loc. cit. supra*, p. 240.

**Emphor bombiformis fuscojubatus** Cockerell. Syn. by Mitchell, 1962, *loc. cit. supra*, p. 240.

**bombiformis fuscojubatus** (Cockerell). Syn. of **bombiformis** (Cresson).

Genus **DIADASIA** Patton, pp. 1219-1220

**angusticeps** Timberlake. Collecting pollen of *Clarkia*.

Biology: Linsley and MacSwain, 1957. Wasmann Jour. Biol. 15: 201.

**australis californica** Timberlake. Collecting pollen from Cactaceae, principally *Opuntia*.

Biology: Linsley and MacSwain, 1957. Wasmann Jour. Biol. 15: 201-203.

**consociata** Timberlake.

Biology: Linsley and MacSwain, 1957. Wasmann Jour. Biol. 15: 203, 205, pl. 1, fig. 1.

**diminuta** (Cresson). Collecting pollen of *Sphaeralcea*.

Biology: Linsley and MacSwain, 1957. Wasmann Jour. Biol. 15: 205-211, pl. 2.

**enavata** (Cresson). Collecting pollen of Compositae, principally *Helianthus*.

Biology: Linsley and MacSwain, 1957. Wasmann Jour. Biol. 15: 212, pl. 1, fig. 5.

**lutzi lutzi** Cockerell. Collecting pollen of *Sphaeralcea*.

Biology: Linsley and MacSwain, 1957. Wasmann Jour. Biol. 15: 212-213, pl. 1, fig. 3.

**nigrifrons** (Cresson). Collecting pollen of *Sidalcea*.

Biology: Linsley and MacSwain, 1957. Wasmann Jour. Biol. 15: 215.

**nitidifrons** Cockerell. Collecting pollen of *Sphaeralcea*.

Biology: Linsley and MacSwain, 1957. Wasmann Jour. Biol. 15: 215.

**ochracea** (Cockerell). Collecting pollen of *Sphaeralcea*. Delete ref. in syn. to ? *Dasiapis olivacea* Cockerell.

Biology: Linsley and MacSwain, 1957. Wasmann Jour. Biol. 15: 215-217, pl. 1, fig. 4.

**vallicola** Timberlake.

Biology: Hall and Hurd in Linsley and MacSwain, 1957. Wasmann Jour. Biol. 15: 217-218.

Genus **MELITOMA** Lepeletier and Serville, pp. 1220-1221

**taurea** (Say). Fla. Collects pollen of *Ipomoea*, but also visits *Asclepias*, *Cirsium*, *Clitoria*, *Convolvulus*, *Hibiscus*, and *Oenothera*.

Tribe **EUCERINI**

Taxonomy: LaBerge, 1957. Amer. Mus. Novitates 1837, pp. 1-44, 42 figs. (gen. reclassification).



Genus **PEPONAPIS** Robertson, p. 1221

Revision: Hurd and Linsley, 1964. *Hilgardia* 35: 425-472, figs. 1, 2, 12-18.

*angelica* (Cockerell). Syn. of *pruinosa* (Say).

\**crassidentata* (Cockerell). Southern Tex.; Mexico to Costa Rica. Collects pollen of domestic species of *Cucurbita* principally.

*Melissodes crassidentata* Cockerell, 1949. U. S. Natl. Mus. Proc. 98: 466. ♂.

Taxonomy: Hurd and Linsley, 1964. *Hilgardia* 35: 431-437, fig. 13.

*limitaris* (Cockerell), changed status. Raised to sp. rank (*teste* Hurd and Linsley, 1964. *Hilgardia* 35: 468). Southern Tex.; Mexico (to Yucatan). Collects pollen of domestic *Cucurbita* and of *C. martin-esci*.

\**michelbacherorum* Hurd and Linsley. Ariz. (Nogales); Mexico (Sonora, Sinaloa). Collects pollen of native and domestic *Cucurbita*.

*Peponapis michelbacherorum* Hurd and Linsley, 1964. *Hilgardia* 35: 437, fig. 14. ♂, ♀.

*pruinosa* (Say), changed status. Raised to sp. rank (*teste* Hurd and Linsley, 1964. *Hilgardia* 35: 448). Remove *Macrocera Philadelphica* Lepelletier from syn. and transf. to *Nomina Dubia* in *Melissodes*, p. 1129 (*teste* LaBerge, 1961. Kans. Univ. Sci. Bul. 42: 654). Transcontinental, Maine to Ga., west to Idaho and Calif.; Mexico. Collects pollen of domestic *Cucurbita* and of *C. foetidissima*.

*Peponapis angelica* (Cockerell) (syn. by Hurd and Linsley, 1964. *Hilgardia* 35: 452).

*pruinosa limitaris* (Cockerell). Raised to sp. rank.

\**timberlakei* Hurd and Linsley. Deserts, N. Mex. to Calif., Nev.; Mexico (Sonora). Collects pollen of *Cucurbita digitata* and *C. palmata*.

*Peponapis timberlakei* Hurd and Linsley, 1964. *Hilgardia* 35: 428, figs. 2, 12. ♂, ♀.

*utahensis* (Cockerell). Ariz., N. Mex., ? Utah; Mexico to El Salvador. Collects pollen of native and domestic *Cucurbita*.

Taxonomy: Hurd and Linsley, 1964. *Hilgardia* 35: 440-448, fig. 15.

Genus **XENOGLOSSA** Smith, p. 1221

Revision: Hurd and Linsley, 1964. *Hilgardia* 35: 384-425, figs. 1-11.

*angustior* Cockerell, changed status. Remove from syn. of *patricia* Cockerell (*teste* Hurd and Linsley, 1964. *Hilgardia* 35: 386). Southwestern N. Mex. to central and southern Calif.; Mexico (Baja California, Sonora). Collects pollen of native and domestic *Cucurbita*.

\**crawfordi* Cockerell. Ariz. (Nogales); Mexico (south to Morelos). Collects pollen of domestic *Cucurbita*.

*Xenoglossa crawfordi* Cockerell, 1910. Ann. and Mag. Nat. Hist. (8) 5: 367. ♂.

\**Xenoglossa dugesi* Cockerell, 1919. U. S. Natl. Mus. Proc. 55: 194. ♀

Taxonomy: Hurd and Linsley, 1964. *Hilgardia* 35: 408-411, fig. 8.

*fulva* Smith. Delete from Catalog and First Supplement; U. S. records apparently based on misidentification (*teste* Hurd and Linsley, 1964. *Hilgardia* 35: 408).

*kansensis* Cockerell, changed status. Raised to sp. rank. N. C. and Ga., west to Colo. and N. Mex. Collects pollen of domestic species of *Cucurbita* and of *C. foetidissima*.

Taxonomy: Hurd and Linsley, 1964. *Hilgardia* 35: 421-425, figs. 9, 11.

*patricia* Cockerell. Remove *angustior* Cockerell, a valid sp., from syn. Tex., N. Mex.; Mexico (Chihuahua, Coahuila, Durango). Collects pollen of *Cucurbita foetidissima*.

Taxonomy: Hurd and Linsley, 1964. *Hilgardia* 35: 396-401, fig. 5.

**strenua** (Cresson), changed status. Raised to sp. rank and **kansensis**, a valid sp., removed from syn. (*teste* Mitchell, 1962, *loc. cit. supra*, p. 247). Transcontinental, Md. to Fla., west to southern Calif.; Mexico (Baja California east to Chihuahua, south to Durango). Collects pollen from domestic and native *Cucurbita*.

Taxonomy: Hurd and Linsley, 1964. *Hilgardia* 35: 411-421, figs. 1, 9, 10, frontispiece.

Biology and Larval Morphology: Bohart, 1964. *Pan-Pacific Ent.* 40: 174-182, 17 figs.

Genus **MARTINAPIS** Cockerell, p. 1222

**luteicornis** (Cockerell). On flowers of *Cercidium*, *Dalea*, *Palafoxia*.

Biology: MacSwain, 1957. *Pan-Pacific Ent.* 33: 70.

\*Genus **MELISSOPTILA** Holmberg

Place after **Martinapis** Cockerell, p. 1222.

\***MELISSOPTILA** subgenus **MELISSOPTILA** Holmberg

**Melissoptila** Holmberg, 1884. *Cordoba. Acad. Nac. de Cien. Actas* 5: 119.

Type: **Melissoptila tandilensis** Homberg. By monotypy.

**Thyreotremata** Holmberg, 1887. *Cordoba. Acad. Nac. de Cien. Bol.* 10: 225. *Nomen nudum*.

**Thyreothremma** Homberg, 1903. *Mus. Nac. Buenos Aires An.* (3) 2: 391.

Type: **Thyreothremma rhopalocera** Homberg (= **Melissoptila tandilensis** Holmberg). Desig. by Sandhouse, 1943.

The typical subgenus does not occur in North America.

\***MELISSOPTILA** subgenus **PTILOMELISSA** Moure

**Ptilomelissa** Moure, 1943. *Rev. de Ent.* 14: 482.

Type: **Ptilomelissa ochromelaena** Moure. By monotypy.

\***otomita** (Cresson). Tex. (Brownsville); Mexico, Guatemala, Honduras.

**Melissodes otomita** Cresson, 1878. *Acad. Nat. Sci. Phila. Proc.* 30: 209.

♂.

\***Melissodes pinguis** Cresson, 1878. *Acad. Nat. Sci. Phila. Proc.* 30: 216. ♀,

♂.

Genus **FLORILEGUS** Robertson, p. 1222

**condignus** (Cresson). N. J., Fla. Visits several flowers, mostly in Labiatae, Leguminosae, and Verbenaceae.

Genus **MELISSODES** Latreille, pp. 1222-1229

\***Melissodes** subg. **Callimelissodes** LaBerge, 1961. *Kans. Univ. Sci. Bul.* 42: 294.

Type: **Melissodes lupina** Cresson. Orig. desig.

Taxonomy: LaBerge, 1961. *Kans. Univ. Sci. Bul.* 42: 283-663, 125 figs. (Pt. III (final) of a gen. rev. treating the subgenera *Callimelissodes* and *Eumelissodes*.)

**ablusa** Cockerell, changed status. Calif. (Millbrae, Bolinas). (**Callimelissodes**)

**Melissodes metenua ablusa** Cockerell. Raised to sp. rank (*teste* LaBerge, 1961, *loc. cit. supra*, p. 320).

**agilis** Cresson. South. Canada, U. S., except Fla.; Mexico (Chihuahua, Coahuila, Durango). Has been recorded from a number of flowers, but apparently stores pollen of *Helianthus* almost entirely. Remove **subagilis**, a valid sp., from syn. (**Eumelissodes**)

\***ambigua** Smith. Syn. of **rustica** (Say).

**americana** (Lepelletier). Transfer to *Nomina Dubia* in *Melissodes*, p. 1229 (*teste* LaBerge, 1961, *loc. cit. supra*, p. 654).

\***appressa** LaBerge. Calif. Oligolectic on Compositae, preferably *Gutierrezia*, *Heterotheca*, and *Isocoma*. (**Eumelissodes**)

- Melissodes (Eumelissodes) appressa* LaBerge, 1961. Kans. Univ. Sci. Bul. 42: 616. ♀, ♂.
- \**assimilis* Smith. Syn. of *rustica* (Say).
- asteris* Robertson. Syn. of *rustica* (Say).
- atraticornis* Cockerell. Syn. of *confusa* Cresson.
- \**atrifera* Cockerell. Syn. of *montana* Cresson.
- atrifera sandiarum* Cockerell. Syn. of *montana* Cresson.
- autumnalis* Robertson. Syn. of *dentiventris* Smith.
- \**bicolorata* LaBerge. Northern Calif., Nev., Utah. On flowers of *Chrysothamnus*, *Melilotus*, and *Pentstemon*. (*Eumelissodes*)
- Melissodes (Eumelissodes) bicolorata* LaBerge, 1961. Kans. Univ. Sci. Bul. 42: 441. ♀, ♂.
- bidentis* Cockerell. N. Dak. and Minn. south to Tex., N. Y. Oligolectic on Compositae, principally Heliantheae. (*Eumelissodes*)
- \**bimatrix* LaBerge. B. C. to Calif., east to Colo. and N. Mex. Probably oligolectic on Compositae, principally *Chrysothamnus*. (*Eumelissodes*)
- Melissodes (Eumelissodes) bimatrix* LaBerge, 1961. Kans. Univ. Sci. Bul. 42: 431. ♀, ♂.
- blakei* Cockerell. Syn. of *menuacha* Cresson.
- boltoniae* Robertson. Pa. to Minn. south to Fla. and Tex. Oligolectic on Compositae. (*Eumelissodes*)
- Melissodes melandri* Cockerell (syn. by LaBerge, 1961, *loc. cit. supra*, p. 482).
- \**brevipyga* LaBerge. Ariz., Calif., Idaho. Oligolectic on Compositae, preferably *Aster* and *Isocoma*. (*Eumelissodes*)
- Melissodes (Eumelissodes) brevipyga* LaBerge, 1961. Kans. Univ. Sci. Bul. 42: 606, figs. 111-112. ♀, ♂.
- \**cerussata* LaBerge. Calif. (San Bernardino Co.). On flowers of *Geraea*. (*Eumelissodes*)
- Melissodes (Eumelissodes) cerussata* LaBerge, 1961. Kans. Univ. Sci. Bul. 42: 436. ♀.
- chrysothamni* Cockerell. Syn. of *semilupina* Cockerell.
- \**civica* Cockerell. Syn. of *confusa* Cresson.
- \**clarkiae* LaBerge. Oreg., Calif. Taken on flowers of *Clarkia*. (*Callimelissodes*)
- Melissodes (Callimelissodes) clarkiae* LaBerge, 1961. Kans. Univ. Sci. Bul. 42: 315, figs. 50-53. ♀, ♂.
- \**collicata* Cockerell. Ariz., Mexico. (*Melissodes*)
- Melissodes collicata* Cockerell, 1910. Ann. Mag. Nat. Hist. (8) 5: 257. ♂.
- Melissodes (Melissodes) elusa* LaBerge [recorded in Sup. 1, p. 251] (syn. by LaBerge, 1961, *loc. cit. supra*, p. 655).
- coloradensis* Cresson. N. C., Ohio, Ind., Ill., Wis., Mo., Nebr., Kans., Wyo., Colo., N. Mex., Ariz., Utah, north. Calif. Oligolectic on Compositae, principally *Helianthus*. (*Callimelissodes*)
- composita* Tucker. Mont. south to Ariz., N. Mex. On flowers of *Aster*, *Grindelia*, *Haplopappus* and *Thurberia*. Nests in ground individually, but many individuals use a communal entrance. (*Callimelissodes*)
- Biology: Hurd and Linsley, 1959. Ent. News 70: 141-146.
- confusa* Cresson. Alta., Man. and Sask. south through Calif., Ariz. and N. Mex. to southern Mexico (Veracruz and Oaxaca). Probably oligolectic on a wide range of Compositae. (*Eumelissodes*)
- Melissodes tenuitarsis* Cockerell (syn. by LaBerge, 1961, *loc. cit. supra*, p. 462).

\**Melissodes civica* Cockerell, 1910. Ann. Mag. Nat. Hist. (8) 5: 258. ♀.  
(Syn. by LaBerge, 1961, *loc. cit. supra*, p. 462.)

*Melissodes atricornis* Cockerell (syn. by LaBerge, 1961, *loc. cit. supra*, p. 462).

*confusiformis confusiformis* Cockerell. Syn. of *coreopsis* Robertson.

*confusiformis incondita* Cockerell. Syn. of *vernoniae* Robertson.

*coreopsis* Robertson. Alta. east to Minn., south to Ill., Tex. and Ariz. Oligolectic on Compositae, principally on *Helianthus* and related genera. (*Eumelissodes*)

*Melissodes semiagilis* Cockerell (syn. by LaBerge, 1961, *loc. cit. supra*, p. 448).

*Melissodes confusiformis confusiformis* Cockerell (syn. by LaBerge, 1961, *loc. cit. supra*, p. 448).

*Melissodes helianthophila* Cockerell (syn. by LaBerge, 1961, *loc. cit. supra*, p. 448).

*denticulata* Smith. Que. west to N. Dak., south to Fla. and Tex. Oligolectic on *Vernonia*. (*Eumelissodes*)

*Melissodes rustica* Say of Catalog, in part. *M. denticulata* is a valid sp. not a syn. (*teste* LaBerge, 1961, *loc. cit. supra*, p. 511).

*Melissodes senilis* Smith (syn. by LaBerge, 1961, *loc. cit. supra*, p. 511).

*Melissodes perplexa* Cresson (syn. by LaBerge, 1961, *loc. cit. supra*, p. 511).

*dentiventris* Smith. Southeastern Canada, Mass. west to Kans., south to Ga. and Tex. Oligolectic on Compositae, principally *Aster*. (*Eumelissodes*)

*Melissodes autumnalis* Robertson (syn. by LaBerge, 1961, *loc. cit. supra*, p. 403).

*Melissodes megacerata* Cockerell (syn. by LaBerge, 1961, *op. cit. supra*, p. 403).

\**elegans* LaBerge. Tex., Kans. Probably oligolectic on Compositae. (*Eumelissodes*)

*Melissodes (Eumelissodes) elegans* LaBerge, 1961. Kans. Univ. Sci. Bul. 42: 490. ♀, ♂.

*elusa* LaBerge. Syn. of \**collicata* Cockerell.

\**exilis* LaBerge. Ariz. (Tucson). On flowers of *Aster* and *Viguiera*. (*Eumelissodes*)

*Melissodes (Eumelissodes) exilis* LaBerge, 1961. Kans. Univ. Sci. Bul. 42: 648. ♀, ♂.

\**expolita* LaBerge. Ariz., south, Calif.; Mexico (Sonora). On flowers of *Baileya*, *Chrysothamnus*, and *Encelia*. (*Eumelissodes*)

*Melissodes (Eumelissodes) expolita* LaBerge, 1961. Kans. Univ. Sci. Bul. 42: 505. ♀, ♂.

\**fasciatella* LaBerge. Ariz. On flowers of *Aplopappus*, *Erigeron*, *Gutierrezia* and *Viguiera*. (*Eumelissodes*)

*Melissodes (Eumelissodes) fasciatella* LaBerge, 1961. Kans. Univ. Sci. Bul. 42: 445. ♀.

*festinata* Provancher. Syn. of *rustica* (Say).

*fremontii* Cockerell. Syn. of *hymenoxidis* Cockerell.

\**fumosa* LaBerge. Md. to Nebr. south to S. C., Ala., Miss. Oligolectic on Compositae, preferably *Solidago*. (*Eumelissodes*)

*Melissodes (Eumelissodes) fumosa* LaBerge, 1961. Kans. Univ. Sci. Bul. 42: 486, figs. 90-91. ♀, ♂.

\**gelida* LaBerge. Mont. and N. Dak. south to N. Mex. and Tex. Oligolectic on Compositae, preferably on *Helianthus*. (*Eumelissodes*)

*Melissodes (Eumelissodes) gelida* LaBerge, 1961. Kans. Univ. Sci. Bul. 42: 575. ♀, ♂.

- glenwoodensis* Cockerell. N. Dak. south to N. Mex., west to Wash. and southern Calif. Apparently oligolectic on Compositae, principally on *Chrysothamnus*. (*Callimelissodes*)
- grindeliae* Cockerell. Minn. to Wash., south to southern Calif., Ariz., N. Mex. Oligolectic on various Compositae. (*Eumelissodes*)
- helianthophila* Cockerell. Syn. of *coreopsis* Robertson.
- herricki* Cockerell. Transf. to *Syntrichalonia* LaBerge, p. 1230 as a syn. of *exquisita* (Cresson).
- hevetti* Cockerell. Syn. of *submenuacha* Cockerell.
- \**hirsuta* Smith. Syn. of *montana* Cresson.
- humilior* Cockerell. Ariz., N. Mex., west Tex.; Mexico (Chihuahua). Oligolectic on Compositae. (*Eumelissodes*)
- Melissodes intermediella* Cockerell (syn. by LaBerge, 1961, *loc. cit. supra*, p. 592).
- \**hurdi* LaBerge. Calif. (Antioch, Oakley, Rio Vista, Turlock). On flowers of *Artemisia*, *Centromadia*, *Eriogonum*, *Grindelia*, *Gutierrezia*, *Lessingia*, and *Solidago*. (*Eumelissodes*)
- Melissodes (Eumelissodes) hurdi* LaBerge, 1961. Kans. Univ. Sci. Bul. 42: 526. ♀, ♂.
- hymenoxidis* Cockerell. Colo., Wyo., Utah, Mont., Calif. On flowers of *Chrysopsis*, *Grindelia*, and *Hymenoxys*. (*Eumelissodes*)
- Melissodes fremontii* Cockerell (syn. by LaBerge, 1961, *loc. cit. supra*, p. 561).
- Melissodes kelloggi* Cockerell (syn. by LaBerge, 1961, *loc. cit. supra*, p. 561).
- illata* Lovell and Cockerell. P. E. I. to Alta., south to N. C. in the mts. and Ill. Oligolectic on Compositae, especially *Aster* and *Solidago*. (*Eumelissodes*)
- intermedia* Cresson. Transfer to Nomina Dubia in *Melissodes*, p. 1229 (*teste* LaBerge, 1961, *loc. cit. supra*, p. 654).
- intermediella* Cockerell. Syn. of *humilior* Cockerell.
- kelloggi* Cockerell. Syn. of *hymenoxidis* Cockerell.
- lavata* Cockerell. Syn. of *menuacha* Cresson.
- \**limbus* LaBerge. Ariz. and N. Mex. to central Mexico (Jalisco and Hidalgo). Oligolectic on Compositae, preferably *Aplopappus*, *Baileya*, and *Verbesina*. (*Eumelissodes*)
- Melissodes (Eumelissodes) limbus* LaBerge, 1961. Kans. Univ. Sci. Bul. 42: 585. ♀, ♂.
- lupina* Cresson. Mont. to Wash., south to Colo., Utah, Nev., Calif.; Mexico (Baja Calif.). Apparently oligolectic on Compositae. (*Callimelissodes*)
- \**Melissodes catalinensis vanduzeei* Cockerell, 1923. Calif. Acad. Sci. Proc. (4) 12: 86. ♀. (Syn. by LaBerge, 1961, *loc. cit. supra*, p. 299.)
- \**lustra* LaBerge. Idaho, Oreg., Nev., Calif.; Mexico (Baja Calif.). Oligolectic on Compositae, principally *Chrysothamnus*, *Gutierrezia* and *Isocoma*. (*Callimelissodes*)
- Melissodes (Callimelissodes) lustra* LaBerge, 1961. Kans. Univ. Sci. Bul. 42: 334, fig. 59. ♀, ♂.
- \**lutulenta* LaBerge. B. C. to Sask., south to Calif., Ariz. and Mexico (Guanajuato). Oligolectic on Compositae, principally *Chrysothamnus*, *Grindelia* and *Solidago*. (*Eumelissodes*)
- Melissodes (Eumelissodes) lutulenta* LaBerge, 1961. Kans. Univ. Sci. Bul. 42: 599. ♀, ♂.
- manipularis* Smith. Fla. to N. C., Va (?). On flowers of *Chrysopsis* and *Petalostemum*. (*Eumelissodes*)

*megacerata* Cockerell. Syn. of *dentiventris* Smith.

*melandri* Cockerell. Syn. of *boltoniae* Robertson.

*melanura* (Cockerell). Calif., Nev. On flowers of *Aster*, *Corethrogyne*, *Eriogonum*, *Eriogonum*, *Gutierrezia*, *Lessingia* and *Solidago*. (*Eumelissodes*)

*menuacha* Cresson, changed status. B. C., Alta. and N. Dak., south to Calif., Tex., and Ill.; Mexico (Chihuahua, Zacatecas). Probably oligolectic on Compositae, principally *Grindelia* and *Solidago*. Ch. from subsp. to sp. by LaBerge, 1961, *loc. cit. supra*, p. 419. Remove *submenuachus*, a valid sp., from synonymy. (*Eumelissodes*)

*Melissodes pallida* Robertson (syn. by LaBerge, 1961, *loc. cit. supra*, p. 419).

*Melissodes mizeae* Cockerell (syn. by LaBerge, 1961, *loc. cit. supra*, p. 419).

*Melissodes blakei* Cockerell (syn. by LaBerge, 1961, *loc. cit. supra*, p. 419).

*Melissodes lavata* Cockerell (syn. by LaBerge, 1961, *loc. cit. supra*, p. 419).

*Melissodes octobris* Cockerell (syn. by LaBerge, 1961, *loc. cit. supra*, p. 419).

*menuachus semilupina* Cockerell. Raised to sp. rank.

*menuachus vernonensis* Viereck. Syn. of *pallidisignata* Cockerell.

*metenua* Cockerell, changed status. Wash. to northern Calif., Idaho, Wyo., Utah. On flowers of *Cosmos*, *Eriogonum*, and *Melilotus*. (*Callimelissodes*)

*Melissodes etenua etenua* Cockerell. Raised to sp. rank (*teste* LaBerge, 1961, *loc. cit. supra*, p. 312, figs. 46-49).

*metenua ablusa* Cockerell. Raised to sp. rank.

\**micheneri* LaBerge. Southern and central Calif. Oligolectic on Compositae, preferably *Chrysothamnus* and *Chrysopsis*. (*Eumelissodes*)

*Melissodes (Eumelissodes) micheneri* LaBerge, 1961. Kans. Univ. Sci. Bul. 42: 642. ♀, ♂.

*microsticta* Cockerell. B. C. to Sask. south to southern Calif., Nev., Utah., Colo., and Tex. Oligolectic on Compositae. (*Eumelissodes*)

\**minuscula* LaBerge. Calif. Taken on flowers of *Cressa* and *Heliotropum*. (*Callimelissodes*)

*Melissodes (Callimelissodes) minuscula* LaBerge, 1961. Kans. Univ. Sci. Bul. 42: 323. ♀, ♂.

*mizeae* Cockerell. Syn. of *menuacha* Cresson.

\**monoensis* LaBerge. Calif. (Mono Co.). On flowers of *Chrysothamnus*. (*Eumelissodes*)

*Melissodes (Eumelissodes) monoensis* LaBerge, 1961. Kans. Univ. Sci. Bul. 42: 623. ♀, ♂.

*montana* Cresson. Colo. and Utah, south through Tex., N. Mex., and Ariz. to south. Mexico (Oaxaca). Oligolectic on Compositae. (*Eumelissodes*)

\**Melissodes hirsuta* Smith, 1879. Descr. n. spp. Hym. Brit. Mus., p. 116. ♂. (Syn. by LaBerge, 1961, *loc. cit. supra*, p. 469.)

\**Eucera oajacana* Dalla Torre, 1896. Cat. Hym. v. 10, p. 242. N. name for *hirsuta* Smith, a secondary homonym in *Eucera*.

\**Melissodes atrifera* Cockerell, 1910. Ann. and Mag. Nat. Hist (8) 5: 256. ♂. (Syn. by LaBerge, 1961, *loc. cit. supra*, p. 469).

*Melissodes atrifera sandiarum* Cockerell (syn. by LaBerge, 1961, *loc. cit. supra*, p. 469).

*moorei* Cockerell. Calif. Probably oligolectic on Compositae, principally *Grindelia* and *Hemizonia*. (*Eumelissodes*)

\**nigracauda* LaBerge. Calif. On flowers of *Erigeron*, *Senecio*, and *Stephanomeria*. (*Callimelissodes*)

- Melissodes (Callimelissodes) nigracauda* LaBerge, 1961. Kans. Univ. Sci. Bul 42: 327, figs. 54-57. ♀, ♂.
- nigrosignata* Cockerell. (Synonymized under *rivalis* Cresson in Sup. 1, p. 252.) Remove *nigrosignata pallidisignata* Cockerell, a valid sp., from synonymy in Catalog, p. 1227.
- nivea* Robertson. N. Y. to Minn. and Kans., south to N. C., Ala., and Miss. Probably oligolectic on Compositae. (*Eumelissodes*)
- \**oajacana* (Dalla Torre). Syn. of *montana* Cresson.
- \**ochraea* LaBerge. South. Calif., Ariz. Taken on flowers of *Gutierrezia* and *Isocoma*. (*Eumelissodes*)
- Melissodes (Eumelissodes) ochraea* LaBerge, 1961. Kans. Univ. Sci. Bul. 42: 428. ♀, ♂.
- octobris* Cockerell. Syn. of *menuacha* Cresson.
- pallida* Robertson. Syn. of *menuacha* Cresson.
- pallidisignata* Cockerell, changed status. B. C. to Man., south through south. Calif. and N. Mex. to central Mexico (Aguascalientes). Oligolectic on Compositae, especially *Chrysothamnus*, *Erigeron*, *Grindelia*, *Isocoma*, and *Layia*. (*Eumelissodes*)
- Melissodes nigrosignata* Cockerell of Catalog, in part. *M. pallidisignata* is a valid sp., not a syn. (teste LaBerge, 1961, loc. cit. supra, p. 529).
- Melissodes menuachus vernonensis* Viereck (syn. by LaBerge, 1961, loc. cit. supra, p. 529).
- Melissodes praelauta* Cockerell (syn. by LaBerge, 1961, loc. cit. supra, p. 529).
- Biology: Thorp and Chemsak, 1964. Pan-Pacific Ent. 40: 75-83, 2 figs.
- paroselae* Cockerell. (*Melissodes*)
- Biology: Linsley, 1962. Ent. Soc. Amer. Ann. 55: 161, fig. 8.—Butler, Todd, McGregor and Werner, 1962. Univ. Ariz. Agr. Expt. Sta. Tech. Bul. 139: 1-11.
- \**paucipuncta* LaBerge. Ariz. Possibly oligolectic on *Opuntia*. (*Eumelissodes*)
- Melissodes (Eumelissodes) paucipuncta* LaBerge, 1961. Kans. Univ. Sci. Bul. 42: 650. ♀, ♂.
- \**paulula* LaBerge. Wash. to southern Calif. Oligolectic on Compositae, preferably *Gutierrezia*, *Isocoma*, and *Solidago*. (*Eumelissodes*)
- Melissodes (Eumelissodes) paulula* LaBerge, 1961. Kans. Univ. Sci. Bul. 42: 631. ♀, ♂.
- pecosella* Cockerell. Syn. of *subagilis* Cockerell.
- pennsylvanica* (Lepeletier). Transfer to Nomina Dubia in *Melissodes*, p. 1229 (teste LaBerge, 1961, loc. cit. supra, p. 654).
- perlusa* Cockerell, changed status. Alta. and Man., south to Iowa and Ariz. Probably oligolectic on *Helianthus*. (*Eumelissodes*)
- Melissodes semiagilis* Cockerell, in part. *M. perlusa* is a valid sp. (teste LaBerge, 1961, loc. cit. supra, p. 409).
- perplexa* Cresson. Syn. of *denticulata* Smith.
- \**perpolita* LaBerge. Ariz., Colo., Utah (?). On flowers of *Aster*, *Chaemataxis* and *Grindelia*. (*Eumelissodes*)
- Melissodes (Eumelissodes) perpolita* LaBerge, 1961. Kans. Univ. Sci. Bul. 42: 443. ♀, ♂.
- personatella* Cockerell. Central and southern Calif. Oligolectic on Compositae, principally *Gutierrezia*. (*Eumelissodes*)
- \**pexa* LaBerge. Ariz.; Mexico (Coahuila, Chihuahua). On flowers of *Lepidium*. (*Eumelissodes*)
- Melissodes (Eumelissodes) pexa* LaBerge, 1961. Kans. Univ. Sci. Bul. 42: 621. ♀, ♂.

- \***pilleata** LaBerge. N. C. On flowers of *Aster*, *Chrysopsis*, *Gerardia*, and *Kuhnistera*. (*Eumelissodes*)  
**Melissodes** (*Eumelissodes*) **pilleata** LaBerge, 1961. Kans. Univ. Sci. Bul. 42: 459. ♀, ♂.
- \***plumosa** LaBerge. Wash. to Calif., N. Dak. (?). Visits flowers of *Encelia* and *Helianthus*. (*Callimelissodes*)  
**Melissodes** (*Callimelissodes*) **plumosa** LaBerge, 1961. Kans. Univ. Sci. Bul. 42: 308, figs. 42-45. ♀, ♂.
- praelauta** Cockerell. Syn. of **pallidesignata** Cockerell.
- \***pullatella** LaBerge. Oreg. On flowers of *Grindelia*. (*Eumelissodes*)  
**Melissodes** (*Eumelissodes*) **pullatella** LaBerge, 1961. Kans. Univ. Sci. Bul. 42: 620. ♀.
- \***relucens** LaBerge. Tex. (El Paso and Big Bend Natl. Pk.). Taken on flowers of *Isocoma*. (*Eumelissodes*)  
**Melissodes** (*Eumelissodes*) **relucens** LaBerge, 1961. Kans. Univ. Sci. Bul. 42: 437. ♀, ♂.
- robustior** Cockerell. Wash., Oreg., Idaho, Nev., Calif. Oligolectic on Compositae, preferably *Helianthus*. (*Eumelissodes*)  
 Biology: MacSwain, 1958. Pan-Pacific Ent. 34: 40.—Chemsak and Thorp, 1962. Pan-Pacific Ent. 38: 53-55.
- rustica** (Say). N. S. to Sask., south to Ga., La., N. Mex. and southern Mexico (Oaxaca), but not known in Tex. and Okla. Oligolectic on Compositae. Remove **denticulata** Smith, a valid sp., and its synonym **senilis** Smith, from synonymy. (*Eumelissodes*)  
 \***Melissodes assimilis** Smith, 1879. Descr. n. spp. Hym. Brit. Mus., p. 114. ♀. (Syn. by LaBerge, 1961, *loc. cit. supra*, p. 543.)  
 \***Melissodes ambigua** Smith, 1879. Descr. n. spp. Hym. Brit. Mus., p. 116. ♀. (Syn. by LaBerge, 1961, *loc. cit. supra*, p. 543.)  
**Melissodes festinata** Provancher (syn. by LaBerge, 1961, *loc. cit. supra*, p. 543).  
**Melissodes asteris** Robertson (syn. by LaBerge, 1961, *loc. cit. supra*, p. 543).
- saponellus** Cockerell. Wash., Oreg., Utah, Colo. On flowers of *Bahia*, *Chaenactis*, *Sphaeralcea* and Alsike clover. (*Eumelissodes*)
- semiagilis** Cockerell. Syn. of **coreopsis** Robertson; transfer **perlusa**, a valid sp., from synonymy.
- semilupina** Cockerell, changed status. B. C. south to Calif., east to Colo. and N. Mex. Oligolectic on flowers of *Chrysothamnus*. (*Eumelissodes*)  
**Melissodes menuachus semilupina** Cockerell. Raised to sp. rank (*teste* LaBerge, 1961, *loc. cit. supra*, p. 425).  
**Melissodes chrysothamni** Cockerell (syn. by LaBerge, 1961, *loc. cit. supra*, p. 425).
- semitristis** Cockerell. Syn. of **tristis** Cockerell.
- snowii** Cresson. Alta., Man., Colo., N. Mex., Nebr., N. Dak. Probably oligolectic on Compositae, principally *Helianthus*. (*Eumelissodes*)
- stearnsi** Cockerell. Wash., Oreg., Calif. Visiting many flowers. (*Callimelissodes*)
- subagilis** Cockerell. Minn., Alta. and Wash. south to northern Calif., Ariz. and Tex. Oligolectic on *Grindelia*. (*Eumelissodes*)  
**Melissodes agilis** Cresson of Catalog, in part. **M. subagilis** is a valid sp. not a syn. (*teste* LaBerge, 1961, *loc. cit. supra*, p. 579).  
**Melissodes pecosella** Cockerell (syn. by LaBerge, 1961, *loc. cit. supra*, p. 579).  
**Xenoglossodes excurrens melanaspis** (Cockerell) (syn. by LaBerge, 1961, *loc. cit. supra*, p. 579).  
**Xenoglossodes albertensis** Cockerell (syn. by LaBerge, 1961, *loc. cit. supra*, p. 579).



- \***subillata** LaBerge. Que. to Sask., south to N. C. and Ill. Oligolectic on Compositae. (*Eumelissodes*)  
**Melissodes** (*Eumelissodes*) **subillata** LaBerge, 1961. Kans. Univ. Sci. Bul. 42: 568, figs. 99-101. ♀, ♂.
- submenuacha** Cockerell, changed status. Ariz., N. Mex., western Tex. On flowers of *Aplopappus*, *Bidens*, *Cleome*, *Helianthus*, *Hymenothrix*, *Isocoma*, *Medicago* and *Verbesina*; probably oligolectic on Compositae. (*Eumelissodes*)  
**Melissodes** **menuachus** **menuachus** Cresson of Catalog, in part. **M. submenuacha** is a valid sp., not a syn. (*teste* LaBerge, 1961, *loc. cit. supra*, p. 414).  
**Melissodes** **hewetti** Cockerell (syn. by LaBerge, 1961, *loc. cit. supra*, p. 414).
- tenuitarsis** Cockerell. Syn. of **confusa** Cresson.
- tepida yumensis** LaBerge. (*Melissodes*)  
 Biology: Butler, Todd, McGregor and Werner, 1962. Univ. Ariz. Agr. Expt. Sta. Tech. Bul. 139: 1-11.
- thelypodii thelypodii** Cockerell. (*Melissodes*)  
 Biology: Butler, Todd, McGregor and Werner, 1962, Univ. Ariz. Agr. Expt. Sta. Tech. Bul. 139: 1-11.
- \***tincta** LaBerge. Minn. and Mich. south to Tex. and Fla. Oligolectic on Compositae, preferably *Aster* and *Chrysopsis*. (*Eumelissodes*)  
**Melissodes** (*Eumelissodes*) **tincta** LaBerge, 1961. Kans. Univ. Sci. Bul. 42: 493. ♀, ♂.
- \***tribas** LaBerge. Calif. (San Diego). (*Callimelissodes*)  
**Melissodes** (*Callimelissodes*) **tribas** LaBerge, 1961. Kans. Univ. Sci. Bul. 42: 326. ♀.
- trinodis** Robertson. Southeast. Canada, Kans. and N. Dak. east to Maine and Ga. Oligolectic on Compositae, principally *Helianthus*. (*Eumelissodes*)
- tristis** Cockerell. Nebr. to Calif., south through Tex. and Ariz. to southern Mexico (Puebla). Visits flowers of Leguminosae, Compositae and Malvaceae. (*Eumelissodes*)  
**Melissodes** **semitristis** Cockerell (syn. by LaBerge, 1961, *loc. cit. supra*, p. 473).  
 Biology: Linsley, 1962. Ent. Soc. Amer. Ann. 55: 161, fig. 8.
- tuckeri** Cockerell. Mont., S. Dak., Nebr., Kans., Tex. On flowers of *Aster* and *Heterotheca*. (*Callimelissodes*)
- \***utahensis** LaBerge. Utah and Nev., south to south. Calif. and Ariz., Nebr. On flowers of *Chaemataxis*, *Chrysothamnus* and *Gutierrezia*. (*Eumelissodes*)  
**Melissodes** (*Eumelissodes*) **utahensis** LaBerge, 1961. Kans. Univ. Sci. Bul. 42: 602, figs. 109-110. ♀, ♂.
- \***vanduzeei** Cockerell. Syn. of **lupina** Cresson.
- velutina** (Cockerell). South. and cent. Calif. Oligolectic on Polemoniaceae, principally *Hugelia*. (*Eumelissodes*)
- verbesinarum** Cockerell, changed status. Transf. from **Xenoglossodes**, p. 1230. Wash. to southern Calif., east to Nev. and Tex.; Mexico (Chihuahua to Jalisco). Oligolectic on various Compositae. (*Eumelissodes*)
- \***vernalis** LaBerge. Wash. and Nev. to southern Calif. and Ariz.; Mexico (Baja California, Sonora, and Hidalgo). Oligolectic on Compositae, preferably *Encelia* and *Geraea*. (*Eumelissodes*)  
**Melissodes** (*Eumelissodes*) **vernalis** LaBerge, 1961. Kans. Univ. Sci. Bul. 42: 608, figs. 113-114. ♀, ♂.
- vernoniae** Robertson. Ind., Minn., and Idaho, south to N. Mex. and Tex. Oligolectic on *Vernonia*, and perhaps other Compositae. (*Eumelissodes*)

*Melissodes confusiformis incondita* Cockerell (syn. by LaBerge, 1961, *loc. cit. supra*, p. 517).

*wheeleri* Cockerell. Mich. and N. Dak. south to La. and Ariz. Oligolectic on Compositae, preferably on *Gaillardia*, *Helianthus* and *Rudbeckia*. (*Eumelissodes*)

Nomina Dubia in *Melissodes* Latreille

Place after Genus *Melissodes*, p. 1229.

*americana* (Lepeletier). Transf. from p. 1223.

*intermedia* Cresson. Transf. from p. 1225.

*pennsylvanica* (Lepeletier). Transf. from p. 1227.

*philadelphica* (Lepeletier). Transf. from synonymy of *Peponapis pruinosa pruinosa* (Say), p. 1221.

Genus *SVASTRA* Holmberg, Sup. 1, p. 253

*SVASTRA* subgenus *BRACHYMELISSODES* LaBerge, Sup. 1, p. 253

*brevicornis* (Cresson). Iowa.

*SVASTRA* subgenus *EPIMELISSODES* Ashmead, Sup. 1, p. 254

*machaerantherae* (Cockerell). N. Mex., Ariz., Calif. On flowers of *Asclepias*, *Baccharis*, *Cryptantha*, *Haplopappus*, *Helenium*, *Kallstroemia* and *Melilotus*.

*obliqua obliqua* (Say).

Biology: Rozen, 1964. Amer. Mus. Novitates no. 2170, pp. 1-13, 15 figs.

\**pallidior* LaBerge. Calif. (Riverside Co.). On flowers of *Hoffmanseggia*.

*Svastra* (*Epimelissodes*) *pallidior* LaBerge, 1963. Kans. Ent. Soc. Jour. 36: 52. ♀, ♂.

*sila* (LaBerge). On flowers of *Heterotheca*. Mexico (Baja Calif.).

Genus *XENOGLOSSODES* Ashmead, pp. 1229-1230

*albertensis* Cockerell. Transf. to *Melissodes* as a syn. of *subagilis* Cockerell.

*excurrans melanaspis* (Cockerell). Transf. to *Melissodes* as a syn. of *subgailis* Cockerell.

*excurrans verbesinarum* (Cockerell). Transf. to *Melissodes* as a valid sp.

\*Genus *SYNTRICHALONIA* LaBerge

*Syntrichalonia* LaBerge, 1957. Amer. Mus. Novitates 1837: 10.

Type: *Melissodes exquisita* Cresson. By monotypy and orig. desig.

Place before *Tetralonia* Spinola, p. 1230.

\**exquisita* (Cresson). N. Mex.; Mexico.

*Melissodes exquisita* Cresson, 1878. Acad. Nat. Sci. Phila. Proc. 30: 213. ♀.

*Melissodes herricki* Cockerell (transf. from *Melissodes*, p. 1225, and syn. by LaBerge, 1957. Amer. Mus. Novitates 1837: 10).

Genus *TETRALONIA* Spinola, pp. 1230-1233

*atriventris* (Smith). Ga., Minn. On flowers of *Aesculus*, *Astragalus*, *Lupinus*, *Mertensia*, *Robinia*, and *Vicia*.

*Tetralonia robertsoni* Cockerell. Syn. by Mitchell, 1962, *loc. cit. supra*, p. 313.

*belfragei* (Cresson). Mich. Visits many flowers.

*fulvohirta* (Cresson). On flowers of *Elaeagnus* and *Vicia*.

*hamata* Bradley. Md. to Ga., west to Wis. and Miss. Visits a large number of flowers, particularly Leguminosae, Rosaceae, Labiatae, and Compositae.

*dilecta* (Cresson). Syn. of *speciosa* (Cresson).

*robertsoni* Cockerell. Syn. of *atriventris* (Smith).

*rosae* (Robertson). Va. Visits chiefly Labiatae, Leguminosae, Rosaceae, and Scrophulariaceae.

*speciosa* (Cresson).

*Tetralonia dilecta* (Cresson). Syn. by Mitchell, 1962, *loc. cit. supra*, p. 321.

\**venusta carinata* Timberlake. Calif. (San Benito and Tuolumne Counties).

*Tetralonia venusta carinata* Timberlake, 1961. Pan-Pacific Ent. 37: 212. ♂.

\**venusta venusta* Timberlake. Calif., Nev. On flowers of *Oenothera* and *Larrea*.

*Tetralonia venusta* Timberlake, 1961. Pan-Pacific Ent. 37: 209. ♀, ♂.

#### ANTHOPHORA subgenus ANTHOPHORA Latreille, pp. 1233-1237

*abrupta* Say. Fla., La. On many flowers, especially Labiatae, Leguminosae and Rosaceae.

*bomboides bomboides* Kirby. Ga. On flowers of *Ceanothus* and *Pentstemon*

*montana* Cresson.

Biology: Linsley, 1962. Ent. Soc. Amer. Ann. 55: 161, fig. 9.

*occidentalis* Cresson. Nests in clay banks.

Biology: Hobbs, Nummi and Virostek, 1961. Canad. Ent. 93: 142-148.

*raui* Rohwer. Colo. to N. Y.

*smithii* Cresson.

Biology: Linsley, 1962. Ent. Soc. Amer. Ann. 55: 161-162, fig. 9.

*urbana urbana* Cresson.

Biology: Linsley, 1962. Ent. Soc. Amer. Ann. 55: 161, fig. 9.

*ursina ursina* Cresson. New England states. On a number of flowers, particularly Leguminosae and Scrophulariaceae.

*walshii* Cresson. On flowers of *Abutilon*, *Baptisia*, *Blephila*, *Cassia*, *Chamaecrista*, *Cirsium*, *Helianthus*, *Lespedeza*, *Lobelia*, *Petalostemum*, *Ruellia* and *Teucrium*.

#### ANTHOPHORA subgenus CLISODON Patton, p. 1237

*furcata terminalis* Cresson. Maine, Wis. Nests in borings in wood. On flowers of *Blephilia*, *Medicago*, *Monarda*, *Pentstemon*, *Prunella*, *Rosa*, *Salvia*, and *Scutellaria*.

Biology: Medler, 1964. Canad. Ent. 96: 1332-1336, 4 figs.

#### *Anthophora* subgenus *Amegilla* Friese, p. 1237

Delete this heading and synonymy and transfer component species to *Anthophora* subg. *Anthophora*, pp. 1233-1237. *Amegilla* does not occur in North America (*teste* Michener, 1960. Queensland Nat. 16: 63).

#### Genus EMPHOROPSIS Ashmead, pp. 1239-1240

*Psithyrus* subg. *Laboriopsithyrus* Frison, p. 1254, was automatically synonymized under *Emphoropsis*, when Mitchell (1962, *loc. cit. supra*, p. 332) transferred its genotype to *Emphoropsis*.

\**excellens* Timberlake. Calif. (Kern Co.).

*Emphoropsis excellens* Timberlake, 1962. Ent. News 73: 36. ♀, ♂.

*floridana fedorensis* Cockerell. Change to *laboriosa fedorensis*.

*floridana floridana* (Smith). Syn. of *laboriosa laboriosa* (Fabricius).

*laboriosa fedorensis* Cockerell. Replaces the heading *floridana fedorensis* Cockerell.

**laboriosa laboriosa** (Fabricius), new status. New England states to Ill., south to Fla. and Miss. On flowers of *Cercis*, *Cirsium*, *Dicentra*, *Lupinus*, *Malus*, *Melilotus*, *Prunus*, *Vaccinium*, and *Vicia*.

**Psithyrus (Labiopsithyrus) laboriosus** (Fabricius) of Catalog, in part. *P. laboriosus* transf. to *Emphoropsis*, p. 1239 (teste Mitchell, 1962, loc. cit. supra, p. 332).

**Emphoropsis floridana floridana** (Smith). Syn. by Mitchell, 1962, loc. cit. supra, p. 332.

**miserabilis** (Cresson). Oreg. Stores pollen of *Lupinus*, *Convolvulus* and *Abronia*.

Taxonomy: Torchio and Stephen, 1961. Ent. Soc. Amer. Ann. 54: 683-687, 7 figs. (larva and pupa).

Biology: Stephen and Torchio, 1961. Ent. Soc. Amer. Ann. 54: 687-692, 2 figs.

**murihirta** Cockerell. B. C.

Genus **HEMISIA** Klug, pp. 1240-1241

**lanosa lanosa** Cresson. Okla., Fla.

**versicolor** (Fabricius). On flowers of *Borrichia*, *Byrsonima*, *Carymbola*, *Eugenia*, *Ocimum*, *Securidaca* and *Thryallis*.

**MELECTA** subgenus **MELECTA** Latreille, p. 1242

**pacifica atlantica** Linsley. N. J. to Ga., west to Kans. and Ala. On flowers of *Fragaria*, *Lithospermum* and *Pentstemon*. Host: ? *Anthophora* (A.) *u. ursina* Cr.

**XEROMELECTA** subgenus **MELECTOMORPHA** Linsley, Sup. 1, p. 258, p. 1243

**californica** (Cresson). Ill. Host: *Anthophora occidentalis* Cr.

Biology: Hobbs, Nummi and Virostek, 1961. Canad. Ent. 93: 146.—Linsley, 1962. Ent. Soc. Amer. Ann. 55: 162-163, fig. 8.

**interrupta** (Cresson). Ariz. and Colo. east to Minn., Wis. and Ill. On flowers of *Pycnanthemum*. Host: *Anthophora* (A.) *abrupta* Say.

Genus **ERICROCIS** Cresson, p. 1244

**lata** (Cresson). Fla. to southern Calif.

**CERATINA** subgenus **CERATINULA** Moure, Sup. 1, p. 259

**cockerelli** H. S. Smith. Ga. On flowers of *Bidens*, *Erigeron*, *Euphorbia*, and *Polygala*.

**CERATINA** subgenus **ZADONTOMERUS** Ashmead, pp. 1244-1245

**calcarata** Robertson. Visits flowers of many families. Nests in sumac pith.

Biology: Krombein, 1960. Ent. News 71: 68.

**dupla dupla** Say, changed status. Visits a great many flowers in various families.

**Ceratina (Zadontomerus) dupla** Say. Reduced to subsp. rank (teste Mitchell, 1962, loc. cit. supra, p. 503).

\***dupla floridana** Mitchell. N. C. to Fla., coastal. Visits a number of flowers.

**Ceratina dupla floridana** Mitchell, 1962. N. C. Agr. Expt. Sta. Tech. Bull. 152: 505. ♂, ♀.

**metallica** H. S. Smith. N. Y. On flowers of *Asclepias*, *Chrysanthemum*, *Fragaria*, *Geranium*, *Helianthus*, *Oenothera*, *Prunus*, *Rubus*, *Senecio* and *Vaccinium*. Nests in borings in sumac pith.

Biology: Krombein, 1960. Ent. News 71: 68.

### Tribe XYLOCOPINI

Revision: Hurd and Moure, 1963. Univ. Calif. Pubs. Ent. 29: 1-365, 244 figs. (reclassification of genera and subgenera of world).

Genus **XYLOCOPA** Latreille, pp. 1245-1246

\***Xylocopa** subg. **Stenoxycopa** Hurd and Moure, 1960. Ent. Soc. Amer. Ann. 53: 809.

Type: **Xylocopa artifex** Smith. Orig. desig.

Revision: Hurd, 1961. Amer. Ent. Soc. Trans. 87: 247-257, 2 pls. (subg. **Xylocopoides** Michener).

**artifex** Smith. Nests in dead bamboo and other hollow stems. Transfer from (**Neoxycopa**) to (**Stenoxycopa**).

Taxonomy and Biology: Hurd and Moure, 1960. Ent. Soc. Amer. Ann. 53: 809.

**brasilianorum varipuncta** Patton. Nests in rotting wood. Delete Hawaii from distribution.

Biology: Hurd, 1958. Ent. Soc. Amer. Ann. 51: 369, fig. 1.

**californica arizonensis** Cresson. Nests in structural redwood; also in yucca and agave.

Biology: Hurd, 1958, *loc. cit. supra*, pp. 369-371.

**micans** Lepeletier. Va. Visits a number of flowers. Nests in sound, dead privet. Remove ? in front of **nasuta** citation, add Preocc. after **nasuta** citation, and add N. name after **vidua** citation.

Biology: Hurd, 1958, *loc. cit. supra*, p. 373, fig. 4.

**tabaniformis androleuca** Michener. Nests in structural Douglas fir wood.

Biology: Hurd, 1958, *loc. cit. supra*, p. 373.

\***virginica krombeini** Hurd. Southern Fla. (**Xylocopoides**)

**Xylocopa** (**Xylocopoides**) **virginica krombeini** Hurd, 1961. Amer. Ent. Soc. Trans. 87: 251. ♂, ♀.

**virginica virginica** (Linnaeus). Visits a number of flowers. Nests in dead, sound wood of many trees, including structural timber.

Biology: Hurd, 1958, *loc. cit. supra*, pp. 373-374, fig. 5.—Balduf, 1962. Ent. Soc. Amer. Ann. 55: 263-271, 3 figs.—Sabrosky, 1962. Ent. Soc. Wash. Proc. 64: 184 (mating behavior).

Morphology: Milliron, 1958. Brooklyn Ent. Soc. Bull. 53: 66-68 (gynandromorph).

Tribe BOMBINI

Taxonomy: Stephen, 1957. Oreg. Agr. Expt. Sta. Tech. Bul. 40: 1-163, 31 figs., 18 maps (revision of western spp.).—Milliron, 1961. Kans. Ent. Soc. Jour. 34: 49-61 (generic reclassification).—Medler, 1962. Ent. Soc. Amer. Ann. 55: 212-218, 1 fig., 4 tables (morphometric studies).—Medler and Carney, 1963. Wis. Agr. Expt. Sta. Res. Bull. 240: 1-47 (Wisconsin spp.).—Hazeltine and Chandler, 1964. Kans. Ent. Soc. Jour. 37: 77-87, 6 pls. (queens).

Biology: Medler, 1962. Canad. Ent. 94: 825-833, 1 fig., 3 tables (egg development and absorption).—Hobbs, 1964. Canad. Ent. 96: 115-116 (brood-rearing behavior).

Section **Boopobombus** Frison, p. 1247

Delete this sectional heading; the component groups comprise subgenera belonging to two different genera (*teste* Milliron, 1961, *loc. cit. supra*, p. 53).

**BOMBUS** subgenus **FRATERNOBOMBUS** Skorikov, p. 1247

Transf. with component species to **Pyrobombus** subg. **Cullumanobombus** Vogt.

**BOMBUS** subgenus **BOMBIAS** Robertson, p. 1247

Transf. with component species to **Megabombus** subg. **Bombias** Robertson.

**BOMBUS** subgenus **SEPARATOBOMBUS** Frison, p. 1248

Transf. with component species to **Pyrobombus** subg. **Cullumanobombus** Vogt.

**BOMBUS** subgenus **CROTCHIBOMBUS** Franklin, Sup. 1, p. 260

Transf. with included species to **Pyrobombus** subg. **Cullumanobombus** Vogt.

**Section Odontobombus** Krueger, p. 1249

Delete this sectional heading; it is equivalent to **Megabombus** subg. **Megabombus** Dalla Torre (*teste* Milliron, 1961, *loc. cit. supra*, p. 53).

**BOMBUS** subgenus **SUBTERRANEOBOMBUS** Vogt, p. 1249

Transf. with included species to **Megabombus** subg. **Megabombus** Dalla Torre.

**BOMBUS** subgenus **FERVIDOBOMBUS** Skorikov, p. 1249

Transf. with component species to **Megabombus** subg. **Megabombus** Dalla Torre.

**Section Anodontobombus** Krueger, p. 1249

Delete this sectional heading: it is equivalent to **Pyrobombus** subg. **Pyrobombus** Dalla Torre (*teste* Milliron, 1961, *loc. cit. supra*, p. 53).

**BOMBUS** subgenus **ALPINOBOMBUS** Skorikov, pp. 1253-1254

Transf. with included species to **Megabombus** subg. **Megabombus** Dalla Torre.

**Genus BOMBUS** Latreille

(= **Bombus** subg. **Bombus** Latreille, p. 1250)

**affinis** Cresson.

**Bombus** (**Bombus**) **affinis** var. **novae-angliae** Bequaert. Syn. by Mitchell, 1962, *loc. cit. supra*, p. 518.

**affinis** var. **novae-angliae** Bequaert. Syn. of **affinis** Cresson.

**occidentalis nigroscutatus** Franklin. Coastal north. Calif.

**occidentalis occidentalis** Greene. Western U. S. and Canada except coastal north. Calif.

**Bombus occidentalis** var. **proximus** Cresson (syn. by Stephen, 1957. Oreg. Agr. Expt. Sta. Tech. Bul. 40: 72).

**occidentalis** var. **proximus** Cresson. Syn. of **occidentalis occidentalis** Greene.

**\* Genus MEGABOMBUS** Dalla Torre**MEGABOMBUS** subgenus **BOMBIAS** Robertson

(= **Bombus** subg. **Bombias** Robertson, p. 1247)

**auricomus** (Robertson). A subsp. of **nevadensis** Cresson.

**nevadensis auricomus** (Robertson), changed status.

**Bombus** (**Bombias**) **auricomus** (Robertson). Reduced to subsp. rank (*teste* Mitchell, 1962, *loc. cit. supra*, p. 520).

**MEGABOMBUS** subgenus **MEGABOMBUS** Dalla Torre

**\*Megabombus** Dalla Torre, 1880. Der Naturhist. 2: 40.

Type: (**Bombus ligusticus** Spinola) = **Apis argillacea** Scopoli.  
By monotypy.

**Bombus** subg. **Subterraneobombus** Vogt (syn by Milliron, 1961, *loc. cit. supra*, p. 56).

**Bombus** subg. **Fervidobombus** Skorikov (syn. by Milliron, 1961, *loc. cit. supra*, p. 56).

**Bombus** subg. **Alpinobombus** Skorikov (syn. by Milliron, 1961, *loc. cit. supra*, p. 56).

**balteatus** (Dahlbom). Calif.

Biology: Hobbs, 1964. Canad. Ent. 96: 1465-1470, 6 figs.

**americanorum** (Fabricius). Syn. of **pennsylvanicus** (Degeer).

**pennsylvanicus** (Degeer). Transf. from Unplaced Species in Genus *Bombus*, p. 1254.

***Bombus (Fervidobombus) americanorum*** (Fabricius). Syn. by Mitchell, 1962, *loc. cit. supra*, p. 524.

**sonorus** (Say), changed status.

***Bombus sonorus sonorus*** Say. Raised to sp. rank (*teste* Stephen, 1957, *loc. cit. supra*, p. 40).

***Bombus sonorus flavodorsalis*** Franklin (syn. by Stephen, 1957, *loc. cit. supra*, p. 40).

**sonorus flavodorsalis** (Franklin). Syn. of **sonorus** (Say).

Genus PYROBOMBUS Dalla Torre

PYROBOMBUS subgenus CULLUMANOBOMBUS Vogt

***Bombus* subg. *Fraternobombus*** Skorikov (syn. by Milliron, 1961, *loc. cit. supra*, p. 57).

***Bombus* subg. *Separatobombus*** Frison (syn. by Milliron, 1961, *loc. cit. supra*, p. 57).

***Bombus* subg. *Crotchiiobombus*** Franklin (syn. by Milliron, 1961, *loc. cit. supra*, p. 57).

**crotchii crotchii** (Cresson).

***Bombus crotchii* var. *nigricaudus*** (Frison) (syn. by Stephen, 1957, *loc. cit. supra*, p. 57).

**crotchii** var. **nigricaudus** (Frison). Syn. of **crotchii crotchii** Cresson.

**griseocollis** (Degeer).

***Bombus (Separatobombus) griseocollis* var. *mormonorum*** Franklin (syn. by Stephen, 1957, *loc. cit. supra*, p. 50).

***Bombus (Separatobombus) griseocollis* var. *nero*** (Bequaert and Plath). Syn. by Mitchell, 1962, *loc. cit. supra*, p. 527.

**griseocollis** var. **mormonorum** (Franklin). Syn. of **griseocollis** (Degeer).

**griseocollis** var. **nero** (Bequaert and Plath). Syn. of **griseocollis** (Degeer).

**morrisoni** var. **umbrosus** Friese. Change Canada to Colo.

**rufocinctus** (Cresson).

***Bombus rufocinctus* var. *albertensis*** Cockerell (syn. by Stephen, 1957, *loc. cit. supra*, p. 62).

***Bombus rufocinctus* var. *iridis*** Cockerell and Porter (syn. by Stephen, 1957, *loc. cit. supra*, p. 62).

***Bombus rufocinctus* var. *prunellae*** Cockerell and Porter (syn. by Stephen, 1957, *loc. cit. supra*, p. 62).

**rufocinctus** var. **albertensis** (Cockerell). Syn. of **rufocinctus** (Cresson).

**rufocinctus** var. **iridis** (Cockerell and Porter). Syn. of **rufocinctus** (Cresson).

**rufocinctus** var. **prunellae** (Cockerell and Porter). Syn. of **rufocinctus** (Cresson).

PYROBOMBUS subgenus PYROBOMBUS Dalla Torre

(= *Bombus* subg. *Pratobombus* Vogt, pp. 1250-1253)

**bifarius bifarius** (Cresson), changed status.

***Bombus bifarius*** Cresson. Reduced to subsp. rank (*teste* Stephen, 1957, *loc. cit. supra*, p. 142).

***Bombus bifarius* var. *kenoyeri*** Cockerell (syn. by Stephen, 1957, *loc. cit. supra*, p. 142).

***Bombus bifarius* var. *vancouverensis*** Cresson (syn. by Stephen, 1957, *loc. cit. supra*, p. 142).

***Bombus edwardsii* var. *fuscifrons*** Swenk (syn. by Stephen, *loc. cit. supra*, p. 142).

*bifarius nearcticus* (Handlirsch), changed status.

*Bombus bifarius* var. *nearcticus* Handlirsch. Raised to subsp. rank (*teste* Stephen, 1957, *loc. cit. supra*, p. 145).

*bifarius* var. *kenoyeri* (Cockerell). Syn. of *bifarius bifarius* (Cresson).

*bifarius* var. *nearcticus* (Handlirsch). Raised to subsp. rank.

*bifarius* var. *vancouverensis* (Cresson). Syn. of *bifarius bifarius* (Cresson).

*caliginosus* (Frison).

*Bombus caliginosus* var. *tardus* (Frison) (syn. by Stephen, 1957, *loc. cit. supra*, p. 100).

*caliginosus* var. *tardus* (Frison). Syn. of *caliginosus* (Frison).

*centralis* (Cresson).

*Bombus centralis* var. *fucatus* (Frison) (syn. by Stephen, 1957, *loc. cit. supra*, p. 95).

*Bombus centralis* var. *monardae* Cockerell and Porter (syn. by Stephen, 1957, *loc. cit. supra*, p. 95).

*Bombus centralis* var. *stolidus* (Frison) (syn. by Stephen, 1957, *loc. cit. supra*, p. 95).

*centralis* var. *fucatus* (Frison). Syn. of *centralis* (Cresson).

*centralis* var. *monardae* (Cockerell and Porter). Syn. of *centralis* (Cresson).

*centralis* var. *stolidus* (Frison). Syn. of *centralis* (Cresson).

*edwardsii* var. *fuscifrons* (Swenk). Syn. of *bifarius bifarius* (Cresson).

*edwardsii* var. *russulus* (Frison). Syn. of *mixtus* (Cresson).

*flavifrons dimidiatus* (Ashmead), changed status. Calif. to south. B. C.

*Bombus flavifrons* var. *dimidiatus* Ashmead. Raised to subsp. rank (*teste* Stephen, 1957, *loc. cit. supra*, p. 92).

*Bombus flavifrons* var. *ambiguus* Franklin (syn. by Stephen, 1957, *loc. cit. supra*, p. 92).

*flavifrons flavifrons* (Cresson), changed status.

*Bombus flavifrons* Cresson. Reduced to subsp. rank (*teste* Stephen, 1957, *loc. cit. supra*, p. 88).

Taxonomy: Milliron, 1962. Brooklyn Ent. Soc. Bul. 57: 45-46 (gynandromorph).

*flavifrons* var. *ambiguus* (Franklin). Syn. of *flavifrons dimidiatus* (Ashmead).

*flavifrons* var. *dimidiatus* (Ashmead). Raised to subsp. rank.

*flavifrons* var. *vandykei* (Frison). Raised to sp. rank.

*frigidus* (Smith).

*Bombus frigidus* var. *couperi* Cresson (syn. by Stephen, 1957, *loc. cit. supra*, p. 124).

*frigidus* var. *couperi* (Cresson). Syn. of *frigidus* (Smith).

*frigidus* var. *sandersoni* Franklin. Raised to sp. rank.

*huntii* (Greene).

*Bombus huntii* var. *rufosuffusus* Cockerell (syn. by Stephen, 1957, *loc. cit. supra*, p. 135).

Biology: Medler, 1959. Ent. News 70: 179-182.

*huntii* var. *rufosuffusus* (Cockerell). Syn. of *huntii* (Greene).

*impatiens* Cresson.

*Bombus impatiens* var. *deayi* Chandler. Syn. by Mitchell, 1962, *loc. cit. supra*, p. 532.

*impatiens* var. *deayi* Chandler. Syn. of *impatiens* Cresson.

*melanopygus* (Nylander).

*Bombus melanopygus* var. *washingtonensis* (Frison) (syn. by Stephen, 1957, *loc. cit. supra*, p. 132).



*melanopygus* var. *washingtonensis* (Frison). Syn. of *melanopygus* (Nylander).

*mixtus* (Cresson).

*Bombus edwardsii* var. *russulus* (Frison) (syn. by Stephen, 1957, *loc. cit. supra*, p. 113).

*perplexus* Cresson.

*Apathus dorsalis* Provancher. Syn. by Mitchell, 1962, *loc. cit. supra*, p. 533. (This species listed under Unplaced Species in Genus *Psithyrus*, Sup. 1, p. 261.)

*sandersoni* Franklin, changed status. Ont. to Newfoundland, south to Tenn. and N. C. On flowers of *Epilobium*, *Malus*, *Pentstemon*, *Rhododendron* and *Rhus*.

*Bombus (Pratobombus) frigidus* var. *sandersoni* Franklin. Raised to sp. rank (*teste* Mitchell, 1962, *loc. cit. supra*, p. 534).

*sylvicola* (Kirby). Calif., Nev., N. Mex.

*Bombus sylvicola* var. *gelidus* Cresson (syn. by Stephen, 1957, *loc. cit. supra*, p. 126).

*Bombus sylvicola* var. *sculleni* (Frison) (syn. by Stephen, 1957, *loc. cit. supra*, p. 126).

*sylvicola* var. *gelidus* (Cresson). Syn. of *sylvicola* (Kirby).

*sylvicola* var. *sculleni* (Frison). Syn. of *sylvicola* (Kirby).

*ternarius* Say.

*Bombus (Pratobombus) ternarius* var. *expallidus* Cockerell. Syn. by Mitchell, 1962, *loc. cit. supra*, p. 536.

*ternarius* var. *expallidus* Cockerell. Syn. of *ternarius* Say.

*vagans vagans* (Smith).

*Bombus (Pratobombus) vagans* var. *coctus* (Bequaert and Plath). Syn. by Mitchell, 1962, *loc. cit. supra*, p. 537.

*Bombus (Pratobombus) vagans* var. *helenae* (Frison). Syn. by Mitchell, 1962, *loc. cit. supra*, p. 537.

*vagans* var. *coctus* (Bequaert and Plath). Syn. of *vagans vagans* (Smith).

*vagans* var. *helenae* (Frison). Syn. of *vagans vagans* (Smith).

*vandykei* (Frison).

*Bombus flavifrons* var. *vandykei* (Frison). Raised to sp. rank (*teste* Stephen, 1957, *loc. cit. supra*, p. 106).

#### Unplaced Species in Genus *Bombus*, p. 1254

*Apis pennsylvanica* Degeer. Transf. to *Megabombus* subg. *Megabombus* where it replaces *americanorum* (Fabricius).

*Bombus bruneri* Swenk, 1938. Delete this entry from Catalog (*teste* Milliron, 1962. *Canad. Ent.* 94: 728). The type locality (Texas) is erroneous, and the species is a synonym of the Eurasian *muscorum* L.

#### Genus *PSITHYRUS* Lepeletier, pp. 1254–1255

Milliron (1961. *Kans. Ent. Soc. Jour.* 34: 59-60) does not recognize subgenera of *Psithyrus* in his generic reclassification. Transf. *Laboriopsithyrus* Frison to syn. of *Emphoropsis* Ashmead, p. 1239.

Taxonomy: Medler, 1962. *Canad. Ent.* 94: 444-447, 1 fig., 3 tables (morphometric study).

*ashtoni* (Cresson). Hosts: *Bombus affinis* Sm. and *B. terricola* Kby.

*citrinus* (Smith), changed status. Host: *Pyrobombus impatiens* (Cr.) and *P. vagans* (Sm.).

*Psithyrus (Labiopsithyrus) laboriosus* var. *citrinus* (Smith). Raised to sp. rank (*teste* Mitchell, 1962, *loc. cit. supra*, p. 540).

*Psithyrus (Labiopsithyrus) laboriosus* (Fabricius) of Catalog, in part.

*Apathus contiguus* transf. to syn. of *citrinus* (teste Mitchell, 1962, loc. cit. supra, p. 540).

**fernaldae** Franklin. Host: ? *Pyrobombus perplexus* (Cr.).

Morphology: Milliron, 1961. Brooklyn Ent. Soc. Bull. 55: 109-113, 2 figs. (gynandromorph).

**insularis** (Smith). Host: *Pyrobombus flavifrons* (Cr.).

**laboriosus** (Fabricius). *B. laboriosus* transf. to *Emphoropsis*, p. 1239, but *contiguus* Cresson is transf. to syn. of *Psithyrus citrinus* (Smith).

**laboriosus** var. *citrinus* (Smith). Raised to sp. rank.

**variabilis** (Cresson). Host: *Megabombus pennsylvanicus* (Deg.).

Biology: Webb, 1961. North Central Branch, Ent. Soc. Amer. Proc. 16: 16.

#### Unplaced Species in Genus *Psithyrus*, p. 1255

*Apathus dorsalis* Provancher. Listed first in Sup. 1, p. 261; transf. to *Pyrobombus* subg. *Pyrobombus* as a syn. of *perplexus* Cresson.

#### Genus *APIS* Linnaeus, p. 1255

Morphology: Daly, 1964. Univ. Calif. Pubs. Ent. 39: 1-77, 54 figs. (skeletal-muscular morphogenesis of thorax and wings).

In Rafinesque entry, change *Apairus* to *Apiarus*, and Palmero to Palmero.

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puncticeps Cam., <i>Tiphia</i>	323	quadrifasciatus (Say), <i>Triepeolus</i> [s]	50
puncticeps Fouts, <i>Pseudisobrachium</i>	320	quadrifasciatus (Say), <i>Triepeolus</i> [s]	50
puncticeps (How.), <i>Isodromus</i>	240	quadrifasciatus (Say), <i>Triepeolus</i> [s]	50
puncticoxa Heinr., <i>Coelichneumon</i>	146	quadrifasciatus (Say), <i>Triepeolus</i> [s]	50
punctifer Heinr., <i>Coelichneumon</i>	167	quadrifasciatus (Say), <i>Triepeolus</i> [s]	50
punctifera Ckll., <i>Perdita</i>	449	quadrifasciatus (Say), <i>Triepeolus</i> [s]	50
punctifera Tow. & Gupta, <i>Giraudia</i>	107	quadrifasciatus (Say), <i>Triepeolus</i> [s]	50
punctifrons Timb., <i>Perdita</i>	449	quadrifasciatus (Say), <i>Triepeolus</i> [s]	50
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punctiscuta Heinr., <i>Ctenichneumon</i>	157	quadrifasciatus (Say), <i>Triepeolus</i> [s]	50
punctiventris Cwfd., <i>Derostenus</i>	233	quadrifasciatus (Say), <i>Triepeolus</i> [s]	50
punctiventris Roger, <i>Myrmica</i> [s]	349	quadrifasciatus (Say), <i>Triepeolus</i> [s]	50
punctiventris Thoms., <i>Deloglyptus</i>	131	quadrifasciatus (Say), <i>Triepeolus</i> [s]	50
punctiventris (Thoms.), <i>Sussaba</i>	183	quadrifasciatus (Say), <i>Triepeolus</i> [s]	50
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punctulata Emery, <i>Crematogaster</i>	356	quadrifasciatus (Say), <i>Triepeolus</i> [s]	50
punctulata Mayr, <i>Prionopelta</i>	346	quadrifasciatus (Say), <i>Triepeolus</i> [s]	50
punctulata Timb., <i>Perdita</i>	450	quadrifasciatus (Say), <i>Triepeolus</i> [s]	50
punctulatum (Thoms.), <i>Odontocolon</i>	83	quadrifasciatus (Say), <i>Triepeolus</i> [s]	50
punctulatus (Linsl.), <i>Holcopasites</i>	498, 499	quadrifasciatus (Say), <i>Triepeolus</i> [s]	50
punicipes Cress., <i>Pimpla</i>	74	quadrifasciatus (Say), <i>Triepeolus</i> [s]	50
punicipes Cress., <i>Cryptus</i> [s]	112, 113	quadrifasciatus (Say), <i>Triepeolus</i> [s]	50
puparum (L.), <i>Pteromalus</i>	267	quadrifasciatus (Say), <i>Triepeolus</i> [s]	50
pura Mayr, <i>Xenocrepis</i>	264	quadrifasciatus (Say), <i>Triepeolus</i> [s]	50
pura (Say), <i>Augochlora</i> [s]	469	quadrifasciatus (Say), <i>Triepeolus</i> [s]	50
pura Timb., <i>Perdita</i> [s]	452	quadrifasciatus (Say), <i>Triepeolus</i> [s]	50
purpurascens Timb., <i>Perdita</i>	450	quadrifasciatus (Say), <i>Triepeolus</i> [s]	50
purpuratus Cress., <i>Cleptes</i>	312	quadrifasciatus (Say), <i>Triepeolus</i> [s]	50
purpuratus Prov., <i>Elampus</i>	306	quadrifasciatus (Say), <i>Triepeolus</i> [s]	50
purpuripennis (Cress.), <i>Compsocryptus</i>	115	quadrifasciatus (Say), <i>Triepeolus</i> [s]	50
pusilla (Ashm.), <i>Basalis</i>	291	quadrifasciatus (Say), <i>Triepeolus</i> [s]	50
pusilla (Ashm.), <i>Trichopria</i>	290	quadrifasciatus (Say), <i>Triepeolus</i> [s]	50
pusilla Cress., <i>Osmia</i>	483	quadrifasciatus (Say), <i>Triepeolus</i> [s]	50
pusilla (Lep.), <i>Fenusia</i>	16	quadrifasciatus (Say), <i>Triepeolus</i> [s]	50
pusilla (Say), <i>Spilomena</i>	398	quadrifasciatus (Say), <i>Triepeolus</i> [s]	50
pusillamoens Heinr., <i>Ichneumon</i>	163	quadrifasciatus (Say), <i>Triepeolus</i> [s]	50
pusilloides Fischer, <i>Opius</i>	53	quadrifasciatus (Say), <i>Triepeolus</i> [s]	50
pusillum Evans, <i>Pseudisobrachium</i>	320	quadrifasciatus (Say), <i>Triepeolus</i> [s]	50
pusillus (Cress.), <i>Cratichneumon</i> [s]	146	quadrifasciatus (Say), <i>Triepeolus</i> [s]	50
pusillus Cress., <i>Epeolus</i>	500	quadrifasciatus (Say), <i>Triepeolus</i> [s]	50
pusillus Davis, <i>Chorinaeus</i>	193	quadrifasciatus (Say), <i>Triepeolus</i> [s]	50
pusio Walsh, <i>Ephialtes</i>	65	quadrifasciatus (Say), <i>Triepeolus</i> [s]	50
pustulatus Mayr, <i>Dolichoderus</i>	386	quadrifasciatus (Say), <i>Triepeolus</i> [s]	50
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putnamii (Pack.), <i>Anagrus</i>	215	quadrifasciatus (Say), <i>Triepeolus</i> [s]	50
putus Cress., <i>Ichneumon</i>	163	quadrifasciatus (Say), <i>Triepeolus</i> [s]	50
pycnocephalus Heinr., <i>Ichneumon</i>	163	quadrifasciatus (Say), <i>Triepeolus</i> [s]	50
pycnocephalus Heinr., <i>Ichneumon</i>	163	quadrifasciatus (Say), <i>Triepeolus</i> [s]	50
Pyrocryptus Thoms.	115	quadrifasciatus (Say), <i>Triepeolus</i> [s]	50
pycnopon Heinr., <i>Eutanyra</i>	153	quadrifasciatus (Say), <i>Triepeolus</i> [s]	50
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pygmaea Latr., <i>Formica</i>	365	quadrifasciatus (Say), <i>Triepeolus</i> [s]	50
pygmaeops Heinr., <i>Stenobarichneumon</i>	144	quadrifasciatus (Say), <i>Triepeolus</i> [s]	50
pygmaeus Cress., <i>Exochus</i>	196	quadrifasciatus (Say), <i>Triepeolus</i> [s]	50
pygmaeus Davis, <i>Ichneumon</i>	146	quadrifasciatus (Say), <i>Triepeolus</i> [s]	50
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